



## **Report on the Advisability of Regionalization: Task 1**

Prepared for:

**The Temporary Regional School Study  
Committee for Ansonia and Derby**

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**November 2019**

## Acknowledgements

The authors greatly appreciate the time and support of the following individuals, without whom this report would not have been possible:

Joseph DiBacco (Ansonia Public Schools)  
Stephen Bergin (Ansonia Public Schools)  
Lisa Jones (Ansonia Public Schools)  
Kevin Keating (Ansonia Public Schools)  
Matt Conway (Derby Public Schools)  
Jen Olsen (Derby Public Schools)  
Mark Izzo (Derby Public Schools)  
Jim Burns (Derby Public Schools)  
Shelly Sheridan (Derby Public Schools)  
Matt Venhorst (Connecticut State Department of Education)  
Katie Roy (Connecticut School Finance Project)  
Patrick Gibson (Connecticut School Finance Project)  
Larry Cass (USI)  
Temporary Regionalization School Study Committee Members  
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# Contents

Acknowledgements.....	2
Executive Summary.....	4
Introduction .....	8
I. Regionalization in Connecticut .....	10
II. Academics, Programming, & Educational Plan .....	12
III. Facilities.....	25
IV. Enrollment .....	42
V. Finance.....	56
VI. Governance and Administration.....	90
VII. Culture .....	95
Conclusion.....	98
Appendix A: Frequently Asked Questions.....	99
Appendix B: Unique Course Offerings .....	100
Appendix C: Extracurriculars.....	102
Appendix D: Reimbursement Requirements & Site Analyses.....	104
Appendix E: Financial Analyses .....	159
Appendix F: Required Components of Report.....	170
Works Cited.....	171

# Executive Summary

## ***What is happening?***

Ansonia and Derby have formed a committee to determine whether it is advisable for their school districts to merge and create a regional school district.

## ***What is a regional school district?***

A regional school district operates just like Ansonia Public Schools (APS) and Derby Public Schools (DPS), but would be shared across the two cities. A new regional district could keep all schools open, or it could close some schools.

If all grades regionalize, the regional district would replace APS and DPS. If only some grades regionalize, the regional board of education would oversee the regional grades, while Ansonia and Derby would each have boards to separately oversee the non-regional grades.

## ***How would this impact students?***

High school students would have access to more courses, like Advanced Placement classes, language classes, or career and technical classes. Test scores, however, would likely not change significantly, and some students could need to change schools.

## ***Would regionalization mean the closing of my child's school?***

Not necessarily. Regionalization could mean no school closings, or it could mean closing up to three facilities. This report describes a range of options for the committee to consider; those highlighted include closing Derby High, closing Derby High and Ansonia Middle, and closing Derby High, Ansonia Middle, and Irving Elementary.

## ***Would a regional school district save money?***

Yes. A PK-12 district with three elementary schools would spend an estimated \$55,330,000 less on capital costs than the status quo, and would save an estimated \$2,930,000 annually in operating costs combined across both cities. The exact amount would depend on the configuration of the district, the salary scale negotiated, the benefits package, and the student-to-teacher ratio. Derby would save more money than Ansonia, as Derby currently spends more money per pupil.

## ***What would happen to the sports teams in a regional district?***

The sports teams would likely combine. Though this could mean the end of the football rivalry, it could also mean a more competitive combined team. Other students would have access to more sports teams and athletic programs than they do now.

## ***What other factors I should consider?***

The table on page 6 covers most factors and potential regionalization scenarios.

## ***What happens next?***

The committee determines whether regionalization is advisable, and if so, which grades to regionalize. If the answer is yes, then both cities will hold a public referendum to vote on the proposed regionalizing. If the answer is no, then there will be no vote.

## Summary of Scenarios Considered

### *Status Quo (No Change)*

Under Status Quo, there would be no changes to either Ansonia Public Schools or Derby Public Schools. Capital expenses are estimated at \$62,090,000. The authors recommend the TRSSC consider this option, as there would be no required change.

### *9-12 Regionalization*

Under 9-12 regionalization, a new regional district would run grades 9-12, while Ansonia Public Schools and Derby Public Schools would run grades PK-8 in their respective cities. In the regionalized district, all high school students (9-12) would attend the current Ansonia High School, and pre-K in Derby would shift to elementary schools. Capital expenses are estimated at \$45,770,000, and the cities are expected to save about \$1,440,000 annually in operating costs. The authors do not recommend this option, as this scenario has limited savings and would create additional complexity with a third Board of Education.

### *6-12 Regionalization*

Under 6-12 regionalization, a new regional district would run grades 6-12, while Ansonia Public Schools and Derby Public Schools would run grades PK-5 in their respective cities. In the regionalized district, all high school students (9-12) would attend the current Ansonia High School, all middle school students (6-8) would attend the current Derby Middle School, and pre-K would shift to elementary schools. Capital expenses are estimated at \$22,330,000, and the cities are expected to save about \$2,020,000 annually in operating costs. The authors do not recommend this option, as this scenario has limited savings and would create additional complexity with a third Board of Education.

### *PK-12 Regionalization (4 elementary schools)*

In this scenario, one regional district would oversee all grades (PK-12), along with one Board of Education. However, the same facilities would be used as listed above, under 6-12 regionalization, but renovations at Bradley would differ. Capital expenses are estimated at \$20,410,000, and the cities are expected to save about \$2,490,000 annually in operating costs. The authors recommend the TRSSC consider this option, because high school students would have more access to high school classes, oversight is simpler with one board and one central office, and there are no elementary closures.

### *PK-12 Regionalization (3 elementary schools)*

Under PK-12 regionalization (3 schools), one regional district would oversee all grades (PK-12). High school students would attend the current Ansonia High School, middle school students would attend the current Derby Middle School, and elementary school students would attend either Prendergast, Mead, or Bradley. Capital expenses are estimated at \$6,770,000, and the cities are expected to save about \$2,930,000 annually in operating costs. The authors recommend the TRSSC consider this option, because high school students would have more access to high school classes, oversight is simpler with one board and one central office, and financial savings are the greatest of all scenarios.

The accompanying Task 2 report considers two additional scenarios with separate school districts: sharing services and sharing services with a merged central office.

### Summary of Findings

		No Change / Status Quo	9-12 Regionalized	6-12 Regionalized	PK-12 Regionalized (4 elem.)	PK-12 Regionalized (3 elem.)
<b>District Structure</b>	<b>Grade Levels</b>	All grades local	PK-8 local 9-12 regional	PK-5 local 6-12 regional	All grades regional	All grades regional
	<b>Facilities Used</b>	4 Elementary 2 Middle 2 High	4 Elementary 2 Middle 1 High (Ansonia HS)	4 Elementary 1 Middle (Derby HS) 1 High (Ansonia HS)	4 Elementary 1 Middle (Derby HS) 1 High (Ansonia HS)	3 Elementary (Irving closes) 1 Middle (Derby HS) 1 High (Ansonia HS)
	<b>Number of Central Offices</b>	2	1	1	1	1
	<b>Number of Boards of Education</b>	2	3	3	1	1
<b>Academics</b>	<b>Academic Performance</b>	None	None	None	None	None
	<b>Programming</b>	None	Significant	Significant	Significant	Significant
	<b>Special Education</b>	None	Some	Some	Some	Some
	<b>Extracurriculars</b>	None	Significant	Significant	Significant	Significant
	<b>Curriculum</b>	None	Mixed Effect	Mixed Effect	Significant	Significant
	<b>Social Emotional and Student Health</b>	None	Some (Negative)	Some (Negative)	Some (Negative)	Some (Negative)
	<b>English Learners</b>	None	Some	Some	Some	Some
<b>Enrollment &amp; Facilities</b>	<b>Student Movement Needed</b>	None	Some (Negative)	Some (Negative)	Some (Negative)	Significant (Negative)

		No Change / Status Quo	9-12 Regionalized	6-12 Regionalized	PK-12 Regionalized (4 elem.)	PK-12 Regionalized (3 elem.)
Financial	Total Capital Spending	\$62,090,000	\$45,770,000	\$22,330,000	\$20,410,000	\$6,770,000
	Total Savings (Operating Budget)	None	Significant (Savings)	Significant (Savings)	Significant (Savings)	Significant (Savings)
	Central Office Savings	None	Significant (Savings)	Significant (Savings)	Significant (Savings)	Significant (Savings)
	Salaries, Benefits, and Collective Bargaining Agreements	None	Some (Savings)	Some (Savings)	Significant (Savings)	Significant (Savings)
	School-Based Administrators	None	Some (Savings)	Some (Savings)	Some (Savings)	Significant (Savings)
	Teachers	None	Some (Savings)	Some (Cost)	Some (Cost)	Some (Cost)
	Special Education	None	None	None	Some (Savings)	Some (Savings)
	Utilities	None	Some (Savings)	Some (Savings)	Some (Savings)	Significant (Savings)
	Transportation	None	None	None	None	None
	Economies of Scale	None	None	Some (Savings)	Some (Savings)	Some (Savings)
Governance & Administration	Governance	None	Mixed Effect	Mixed Effect	Mixed Effect	Mixed Effect
	Administration	None	Some (Negative)	Some (Negative)	Some (Negative)	Some (Negative)
Culture	Community Perception of Regionalization	None	Mixed Effect	Mixed Effect	Mixed Effect	Mixed Effect
	Athletics	None	Mixed Effect	Mixed Effect	Mixed Effect	Mixed Effect

\$0 - \$99,999: No Impact

\$100,000 - \$499,999: Some Impact

\$500,000+: Significant Impact

# Introduction

## Key Points

- Ansonia and Derby have formed a committee to determine whether regionalization is advisable.
- Regionalized districts can look very different. They vary by grade level, facilities used, merged or separate central offices, and board configurations.
- This report considers five possible configurations. These include Status Quo, Regional High School (9-12), Regional Middle and High School (6-12), and two Regional Elementary, Middle, and High Schools (PK-12) configurations. There is a corresponding “Task 2” Report that outlines impacts of shared services, including a shared central office.

## Context

In 2018, the cities of Ansonia and Derby created a joint Temporary Regionalization School Study Committee (TRSSC) to determine the advisability of creating a regional school district. The committee approved its mission statement in August of that year, as follows:

*The Temporary Regional School Study Committee will examine all pertinent qualitative and quantitative data available in order to determine the feasibility of merging the Ansonia and Derby school districts in accordance with state statutes 10-43 (a) (1) through 9. The result of this action will provide the most viable outcome for rigorous, diverse and relevant educational opportunities for the students of both towns while maintaining fiscal responsibility on behalf of the Residents.*

The TRSSC is composed of five members from Ansonia and five members from Derby, including members from each Board of Education, the Boards of Aldermen, and the community. In 2019, the committee held monthly public meetings at Ansonia High School and Derby Middle School to share initial findings and discuss regionalization.

As part of this work, in December 2018, the Naugatuck Valley Council of Governments hired District Management Group, a Boston-based consulting group, to complete two tasks for the TRSSC in accordance with Connecticut general statute 10-39(a), as follows:

- Task 1: Create a Comprehensive Report on Advisability of Creating a Regional District
- Task 2: Conduct a Study of Potential Savings or Operational Efficiencies Derived from Regionalizing Services without a Merger

District Management Group subcontracted with Milone & MacBroom to conduct an enrollment study for the report, and with Silver / Petrucelli + Associates to conduct a facilities study for the report.



This report is the culmination of Task 1. Accompanying this report is the culmination of Task 2.

### **Configurations Considered**

A regionalized school district can take on many forms. Four factors define much of the structure of the new district:

1. Grade levels regionalizing or remaining separate
2. Facilities that the district will use
3. Configuration of central offices (merged or separate)
4. Configuration of the Board(s) of Education

Combined, these factors could lead to hundreds of different district configurations. For the sake of simplicity, this report considers five potential configurations for Ansonia and Derby. They include:

1. Status Quo (No Change)
2. 9-12 Regionalization
3. 6-12 Regionalization
4. PK-12 Regionalization (4 Elementary Schools)
5. PK-12 Regionalization (3 Elementary Schools)

Note that:

- a) Except for 6th grade, Ansonia and Derby schools follow the same grade configuration. Since Ansonia is currently considering shifting 6th grade to middle school, this report considers 6th grade at the middle school level for all regional scenarios.
- b) Configurations #2-5 listed above would result in a “regionalized” district and require a successful referendum in both cities.
- c) The regionalization committee is not limited to only these configurations; it could choose to combine elements of one configuration with elements of another configuration (e.g., Supervision District).

### **Report Structure**

This Task 1 report is divided into seven sections:

- I. Regionalization in Connecticut
- II. Academics, Programming, & Educational Plan
- III. Facilities
- IV. Enrollment
- V. Finance
- VI. Governance and Administration
- VII. Culture

Each section begins with key points that are discussed further in the section, and then provides an impact score for each of the seven configurations. All scores are tabulated in the Summary Table (located in the Executive Summary and in Appendix A). The report concludes with the TRSSC’s next steps.

The Task 2 report on shared services if the districts do not regionalize will be released subsequent to the release of this report.

## I. Regionalization in Connecticut

### *Current Connecticut Regional Districts*

There are currently 17 regional districts in Connecticut. They include:

Regional School District	Towns / Cities Participating
Regional School District 01	Canaan, Cornwall, Kent, North Canaan, Salisbury, Sharon
Regional School District 04	Chester, Deep River, Essex, Region 4
Regional School District 05	Bethany, Orange, Woodbridge
Regional School District 06	Warren, Morris, Goshen
Regional School District 07	Barkhamsted, Colebrook, New Hartford, Norfolk
Regional School District 08	Andover, Hebron, Marlborough
Regional School District 09	Easton, Redding
Regional School District 10	Burlington, Harwinton
Regional School District 11	Chaplin, Hampton, Scotland
Regional School District 12	Bridgewater, Roxbury, Washington
Regional School District 13	Durham, Middlefield
Regional School District 14	Bethlehem, Woodbury
Regional School District 15	Middlebury, Southbury
Regional School District 16	Beacon Falls, Prospect
Regional School District 17	Haddam, Killingworth
Regional School District 18	Lyme, Old Lyme
Regional School District 19	Ashford, Mansfield, Willington

It is noteworthy that no regional districts have been formed for many years, with Regional Districts 12 through 18 formed between 1967 and 1973 (Coleman) and Regional District 19 formed in 1986 (“History”). In 2015, the towns of Colebrook and Norfolk attempted to regionalize; the committee found regionalization advisable, but the referendum failed in Colebrook (“Norfolk, Colebrook school regionalization rejected after split decision”).

### ***Recent Regionalization Legislation***

In spring 2019, Governor Ned Lamont proposed district consolidations as part of his 2019 budget. His proposal called small school districts inefficient, and threatened to reduce state funding after July 2020 for small districts that chose not to share a superintendent. Later in the spring, Senate Bill 874 passed, but it did not impose penalties on small districts. Instead, the bill created an organization that would “develop recommendations for the sharing of school services and additional collaborations within and among school districts” (Megan).<sup>1</sup>

## II. Academics, Programming, & Educational Plan

### Key Points:

- Students in Ansonia and Derby have similar academic performance on state tests and the SAT, and also have similar high school graduation and college persistence rates. There is no evidence to suggest that regionalization would dramatically improve or worsen academic performance.
- High school students from both districts would have more courses to choose from at a regionalized school.
- Students, staff, and parents could experience stress or anxiety related to the closing of one school and transition to another.
- Most students with disabilities and English Learners would not see significant programming impact related to their specific needs, though students currently served at specialized schools out of the district could be served in-district.

### Overview

The goal of a school district is to educate its students. The Ansonia Public Schools mission is to “[provide] a safe, progressive learning environment that ensures students achieve their maximum individual potential with the confidence to take intellectual risks and become curious, lifelong learners,” while the Derby Public Schools mission is “to provide all students with a high quality, challenging education in a safe, supportive environment, in which to become lifetime learners.” With these missions aligned around “lifelong” or “lifetime” learners, any conversation around regionalization should start with a conversation around academics.

This section of the report reviews six topics around academics in Ansonia and Derby:

1. Academic Performance
2. Program Offerings
3. Special Education
4. Curriculum
5. Social Emotional Learning
6. English Learners

Within each, the report considers current research around the topic, the current state in Ansonia and Derby, and any implications under regionalization (if any).

*Note:* This section of the report fulfills the requirement under Connecticut general statute 10-43 to establish an “educational plan” of a future district. As described below, a regional district would combine similar programming and services offered in existing districts while reducing redundancies and merging small course offerings. However, for aspects such as a new district’s vision, philosophy, and specific course offerings, the authors encourage the TRSSC to defer judgment to a new regional board and administration.

## 1. Academic Performance

### Research

In short, regionalization does not appear to have an impact on academic performance. According to the Connecticut School Finance Project, “there is no conclusive evidence that school district consolidation positively or negatively impacts students’ academic performance,” and “other variables, such as student income and student teacher ratios, have much stronger effects on student achievement than the size of school districts (19).” Similarly, a 2010 report by the Center for Evaluation & Education Policy at Indiana University Bloomington found that research is split on whether smaller schools led to better student outcomes (3).

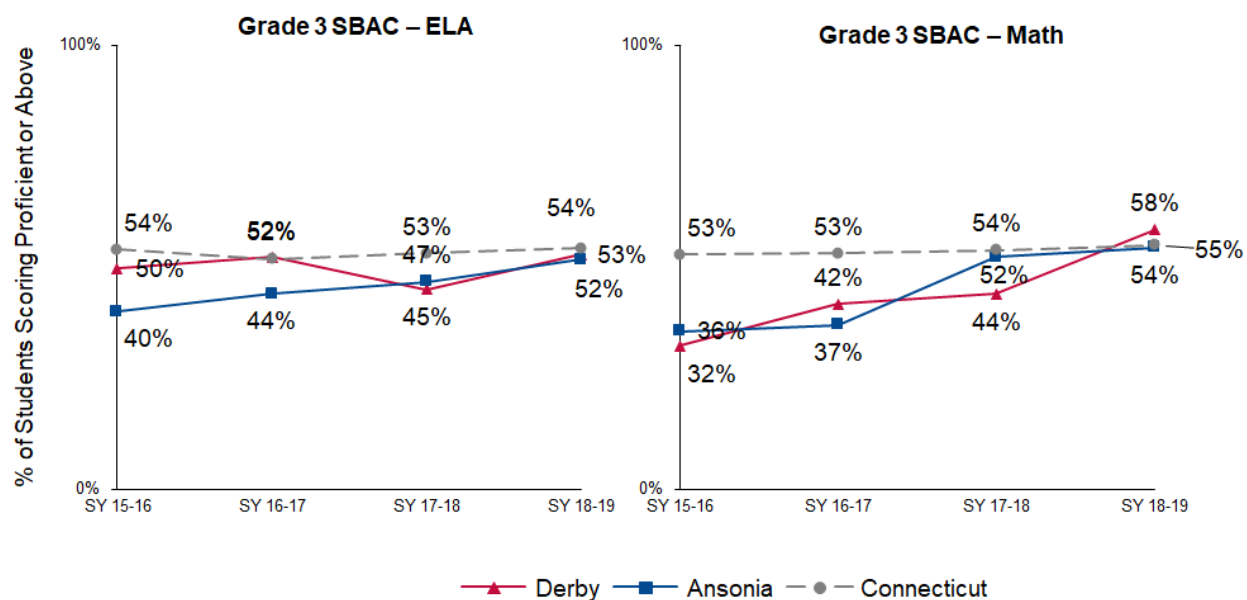
There are two potential ways in which research suggests academics could be impacted. One is through school closures, a likely result from a regionalization effort. A 2017 national study reviewing over 1,500 closures found, on average, very small negative effects in math and reading on displaced students (Barnum). Additionally, there could be an indirect impact as a result of less parental engagement, according to a report by the Hartford Foundation report (6).

### Current Academic Performance in Ansonia and Derby

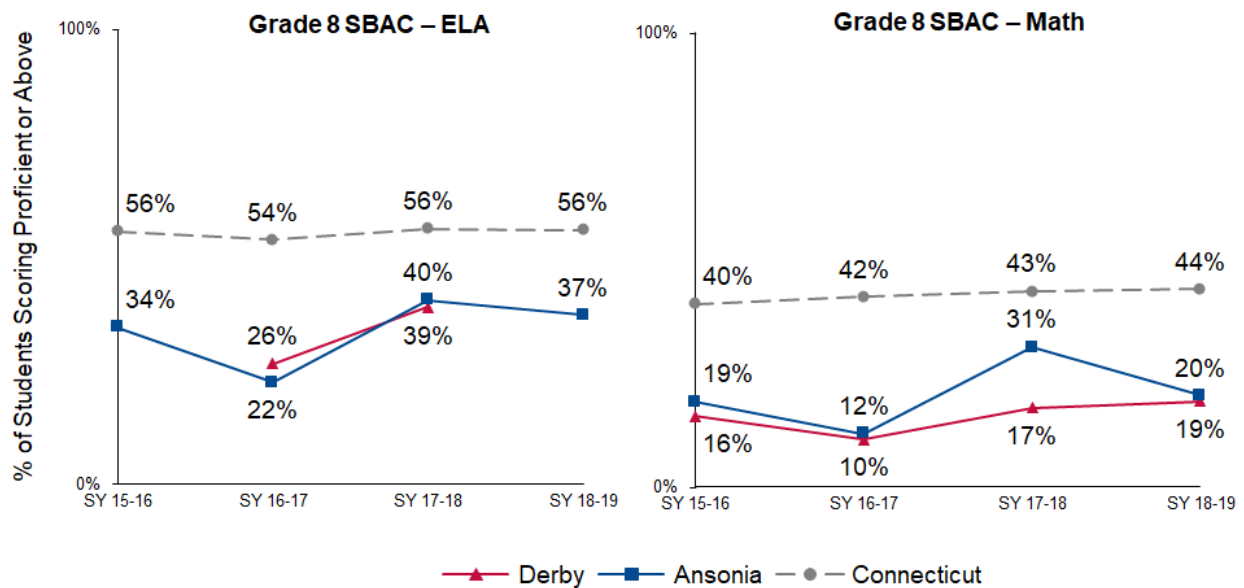
Across almost every metric, students in Ansonia and Derby have similar academic performance. That said, it is interesting to note that Derby was designated an Opportunity District<sup>1</sup> by the Connecticut State Department of Education, while Ansonia was not.

#### Elementary/Middle School State Test Scores: Smarter Balanced (Connecticut State Test)

The sections below detail students’ academic performance by district at the elementary/middle school level and at the high school level.



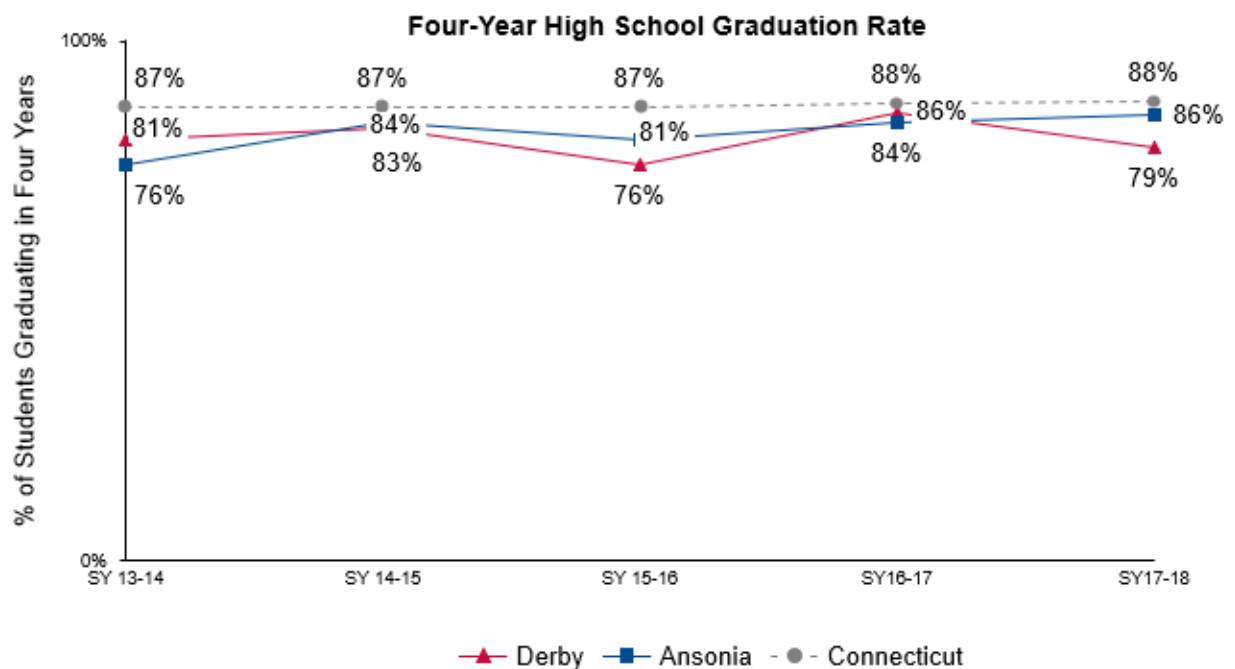
<sup>1</sup> According to the Connecticut Consolidated State Plan, “Opportunity Districts (previously called Educational Reform Districts) are a subset of Connecticut’s Alliance Districts. Opportunity Districts are the 10 lowest performing districts in the state. Approximately 70 percent of Title I schools are found in these 10 districts. Under ESSA, these 10 districts will receive an intensive level of support and will be accountable for continuous improvement toward our ESSA-required long-term goals.”



#### Secondary Statistics: Graduation Rate, SAT Scores, College Entrance & Persistence

##### High School Graduation Rate

Between 2013 and 2017, the four-year high school graduation rates in Ansonia and Derby have mirrored each other. During this span, rates in both districts fluctuated between 76% and 86%, with one district surpassing the other every year - though both are consistently below the state average of 87-88%.

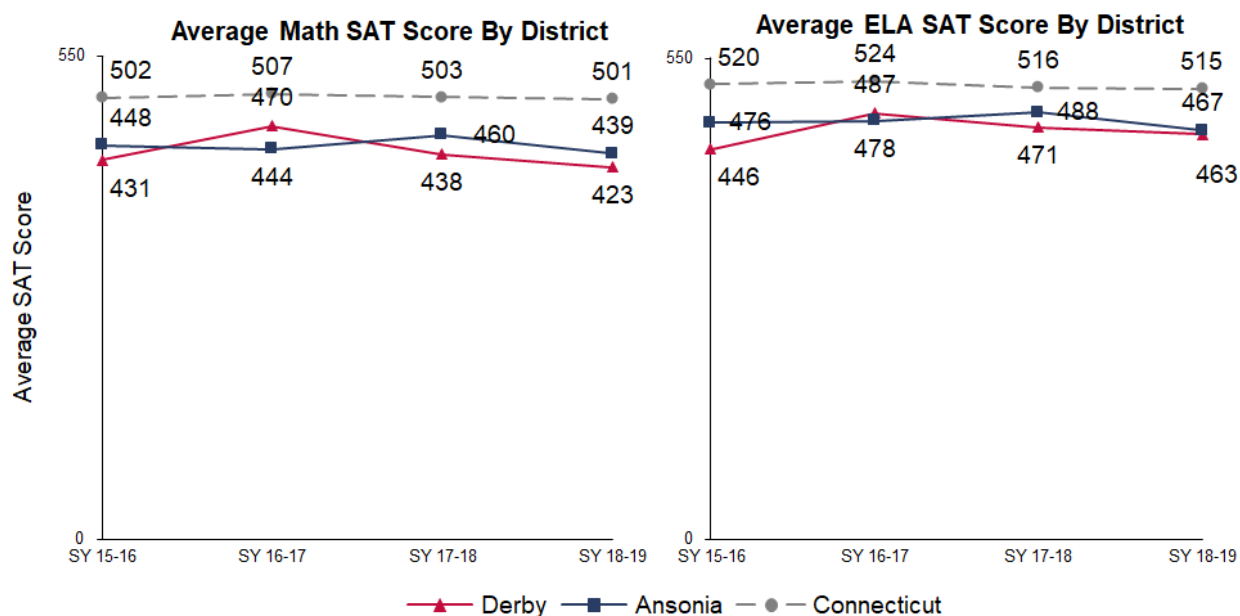


Source: EdSight

## SAT Scores

The two districts have relatively similar SAT scores as well. In the 2018-2019 school year, students at Ansonia scored an average of 467 on the ELA portion of the SAT, while students at Derby scored a 463. In the math portion, students at Ansonia scored a 439 on average, whereas students at Derby scored a 423. Both scores are below the state average, and both reflect the statewide trend of higher SAT scores in reading than in math.

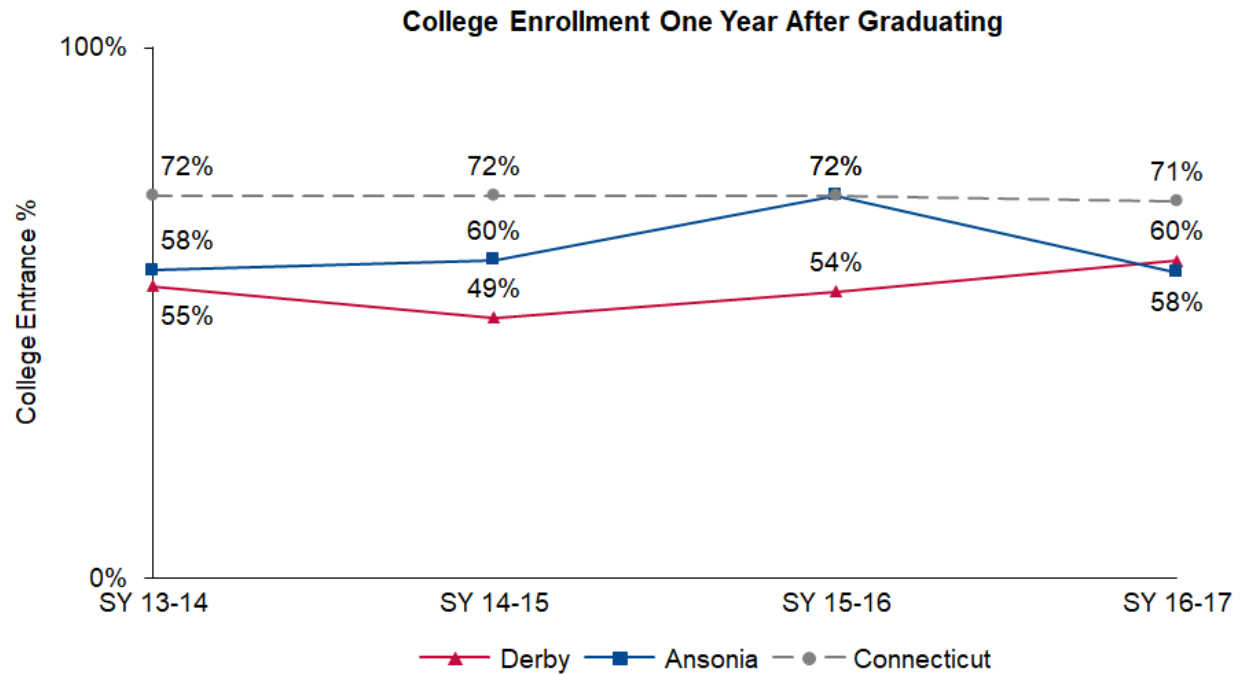
A detailed look at SAT performance is depicted in the graph below.



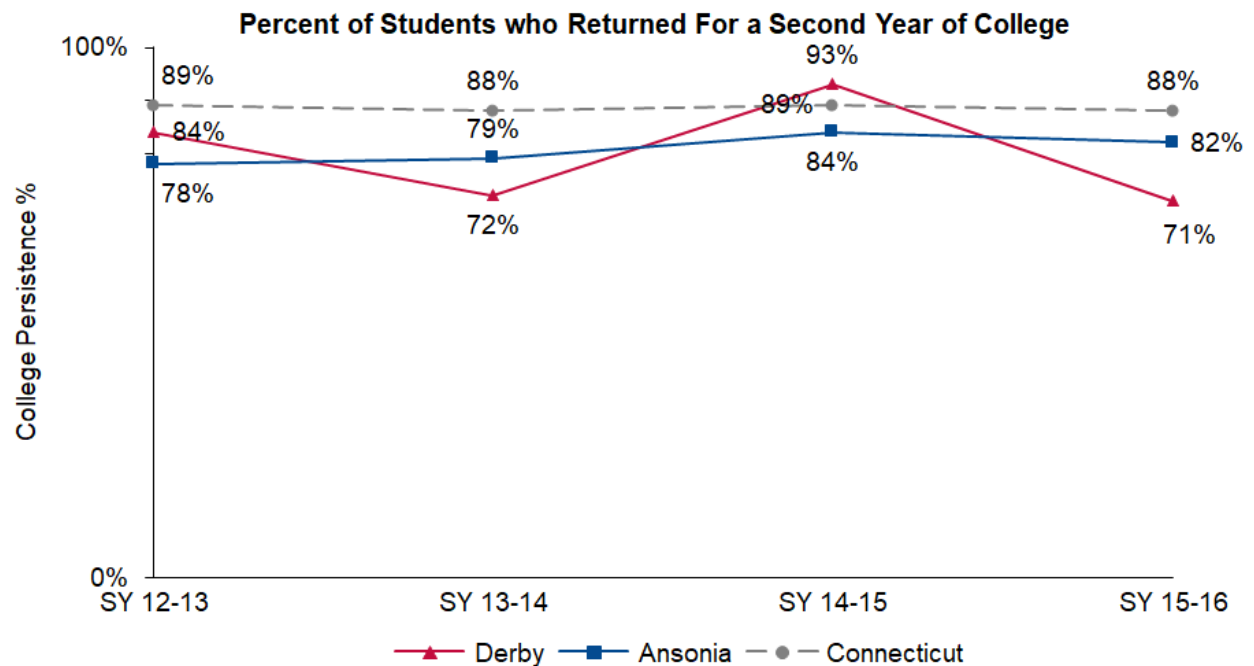
## College Entrance & Persistence

Both Ansonia and Derby students had similar rates of college entrance and persistence (the percentage of students who enrolled in college the first year after high school and returned for a second year).

On average, about 61% of Ansonia students and 57% of Derby students enroll in college the first year after high school. The state college entrance rate is 72%.



When examining the number of students returning to college for a second year, the districts are again similar - 80% in Derby and 81% in Ansonia, below the state average at 89%:



*\*According to EdSight, the year refers to the graduating class of that school year.*



### **Implications for Regionalization**

Across each academic metric, Ansonia and Derby perform at a very similar level. Given research and the similar performance of the student bodies, there is little reason to expect a significant improvement or decline in performance under regionalization.

### **Score**

No impact in all scenarios, due to existing research and similar performance in academic areas.

## **2. Program Offerings**

### **Research**

Though research is inconclusive around regionalization's impacts on academic performance, it does show that regionalization offers students access to additional programming and services. The Connecticut School Finance Project notes that "arguments can be made that access to educational opportunities such as Advanced Placement courses, elective courses, and athletics is improved by consolidating very small school districts." Donis-Keller et al (2013) found that 22 of 24 consolidated Maine districts reported positive effects from consolidation such as "expanded technology; increased gifted and talented programs; expanded prekindergarten or kindergarten programming; alignment of special education services; perceived improvements in education programming in certain subject areas; and improved professional development for teachers." Finally, a document produced by the Massachusetts Department of Elementary and Secondary Education on regionalization found that "when school districts are small, they are often limited in the scope and breadth of courses...they can offer their students...when school districts combine and pool their resources, they can gain flexibility in staffing and increase their ability to offer a more diverse program of studies taught by highly qualified staff (Hemann)."

### **Current Offerings in Ansonia and Derby**

In the 2018-2019 school year, Ansonia High School offered approximately 113 courses overall, while Derby High School offered approximately 104 courses. Below is an overview of the courses offered in each district, by general subject area:

<b>Subject</b>	<b>Derby</b>	<b>Ansonia</b>
Art	9	6
English Language Arts	9	17
World Language	14	7
Mathematics	11	13
Music	5	10
Physical Education/Health	5	5
Science	13	16
Social Studies	19	17
Technical Education	19	22

Of these courses, Ansonia offers 12 AP courses, while Derby offers 5 AP courses.

### **Implications for Regionalization**

At the elementary and middle school levels, programming would remain relatively the same. At the high school level, however, access to new courses would be one of the greatest advantages under regionalization.

If all courses offered in 2018-2019 were still offered, high school students in Ansonia could enroll in 58 new courses, currently taught in Derby, such as:

- Italian I-IV
- Digital Photography
- Business Management
- Military History
- Building Construction
- Holocaust Studies

*Access to new courses  
would be one of the  
greatest advantages under  
regionalization.*

Similarly, high school students in Derby could enroll in 65 new courses, currently taught in Ansonia, such as:

- Mandarin I – III
- Chorus II-IV
- Aerospace Engineering
- Current American History
- Foods I-II
- Sociology II

These courses would offer students in both cities expanded access to arts classes, vocational classes, technical classes, honors and Advanced Placement classes, and more. See Appendix C for a full list of unique courses in each district.

It is true, however, that not all students would be able to enroll in these new courses. A new regional high school would have to balance the demand for these new courses with teacher and facility availability, which could limit which courses are offered and the number of seats available in a course.

### **Score**

No impact under status quo. Significant impact under all regionalized scenarios due to new high school programming for each district.

### 3. Extracurriculars

#### Research

In general, research suggests that larger districts yield a greater variety in extracurricular clubs ([Rodriguez](#) 11; [Durflinger and Haeffel](#); [Self](#) 5), though there is little other additional research here.

#### Current State in Ansonia and Derby

According to their school websites, Ansonia High School offers 46 extracurricular clubs, while Derby High School offers 14.

*If the high schools merged, there would be a total of 48 unique extracurricular clubs.*

#### Implications for Regionalization

If the high schools merged, there would be a total of 48 unique extracurricular clubs.

Assuming that Ansonia continues to offer the same extracurricular clubs, students at Derby could participate in approximately 40 extracurriculars currently offered exclusively at Ansonia such as:

- Astronomy Club
- Chess/Gaming Club
- Forensics Club
- Guitar Club
- Junior Statesmen of America

Assuming that Derby continues to offer the same extracurricular clubs, students at Ansonia could participate in approximately 8 extracurriculars currently offered exclusively at Derby such as:

- Art Club
- Italian Club
- Italian Honor Society
- Wellness Club
- Tri-M Music Honor Society

#### Score

No impact under status quo. Significant impact under all regionalized scenarios due to additional clubs available in high school.

### 4. Curriculum

#### Research

Regionalization research does not explicitly discuss curriculum. However, some working papers recommend that districts considering regionalization have similar educational philosophies and alignment around educational goals and objectives (Hemman et. al).

#### Current State in Ansonia and Derby

Ansonia and Derby schools currently do not coordinate their curriculum across districts. In focus groups and interviews, staff, students, and community members from both cities found current implementation of curriculum inconsistent within their district, and shared a desire for a rigorous, aligned curriculum

implemented with fidelity across schools. Administrators highlighted the priority to standardize and align the curriculum within their respective districts over the coming years.

### **Implications for Regionalization**

Regionalization would be simpler if both districts already had identical curricula, but since both districts share the goal of curricular realignment, regionalization could offer an opportunity to coordinate curriculum and ultimately offer more enrichment. This coordination, however, would take time and effort from leadership across both districts and from staff to update materials and lesson plans, and while students would benefit most under a regionalized district, curricular coordination could take place even in the absence of regionalization.

If Ansonia and Derby were to regionalize only upper grades, lower grades would need to coordinate curriculum - and potentially shift curriculum - with the new regional district to ensure that students from each district have a similar foundation and experience a smooth transition as they enter the regional school.

*Regionalization could offer an opportunity to coordinate curriculum and ultimately offer more enrichment*

### **Score**

No impact under status quo. Significant impact under all regionalized scenarios.

## **5. Student Health and Well-Being**

### **Research**

There have been negative social/emotional consequences from regionalization, primarily resulting from school closures. A study by Kirshner found that 40% of students reported a high school closure damaged their friendships or other relationships, and other students said they were stereotyped at their new schools. One student said, “People label us as bad, stupid, or useless but people don’t know what it feels like to be forced out and no one will ever understand the struggles we face every day” (420). In contrast, another study by Haller found that truancy and more serious forms of misconduct are “likely to become worse when...schools are consolidated. But barely[.]” The author suggests any decision should rest on criteria other than regionalization’s effects on student behavior (Haller 154).

There has also been research around transportation time and community engagement. A Hartford Foundation report described how closing a school may increase travel time to/from school for students and parents, which could lead to less participation in extracurriculars, fewer parents volunteering in their child’s classroom, and declining teen health when they have long commutes to/from school.

### **Current State in Ansonia and Derby**

According to a February 2019 report by the Connecticut State Department of Education (Wentzell), both Ansonia and Derby are listed in the “47 school districts that have a high, outlier suspension rate in at least one grade K through 12.” Their suspension rates are as follows:

	K	1	2	3	4	5	6	7	8	9	10	11	12
Ansonia		3.7			8.6	9.4	12.6	21.0	11.7	32.6	20.3	10.2	15.0
Derby			6.7			9.2	18.9	21.3	29.6	16.5	14.9	12.9	17.6

\*Grades marked in pink indicate an outlier, suspension rate (outlier defined as “greater than the mean of all Connecticut districts plus one standard deviation”).

\*\*Suspension rate is defined by CSDE as “the number of students reported with at least one suspension (in-school or out-of-school) or expulsion divided by the unduplicated student enrollment count for the school or district for the given school year.”

### Implications for Regionalization

*Change is hard, and regionalization would be no different.*

In both districts, students in focus groups brought up questions around finding new friends and becoming classmates with their current sports rivals. While some students in each district reported concerns around safety at the middle and high school level, they expected that safety would become an even greater concern under regionalization. Indeed, both districts do have high suspension rates, though only in 7<sup>th</sup> grade are both districts outliers. Separately, staff focus groups in both districts stated a

need for more counseling and support services, but funding limited each district’s ability to expand services.

Change is hard, and regionalization would be no different. Under all regional scenarios, one or more schools would close, and staff, students, and parents would experience the challenges of transitioning to a new school. Parent and student focus groups also shared concerns around bullying and joining districts with current sports rivals, a point further discussed in the culture section.

### Score

No impact under status quo. Some negative, short-term impact under regionalized scenarios.

## 6. Special Education

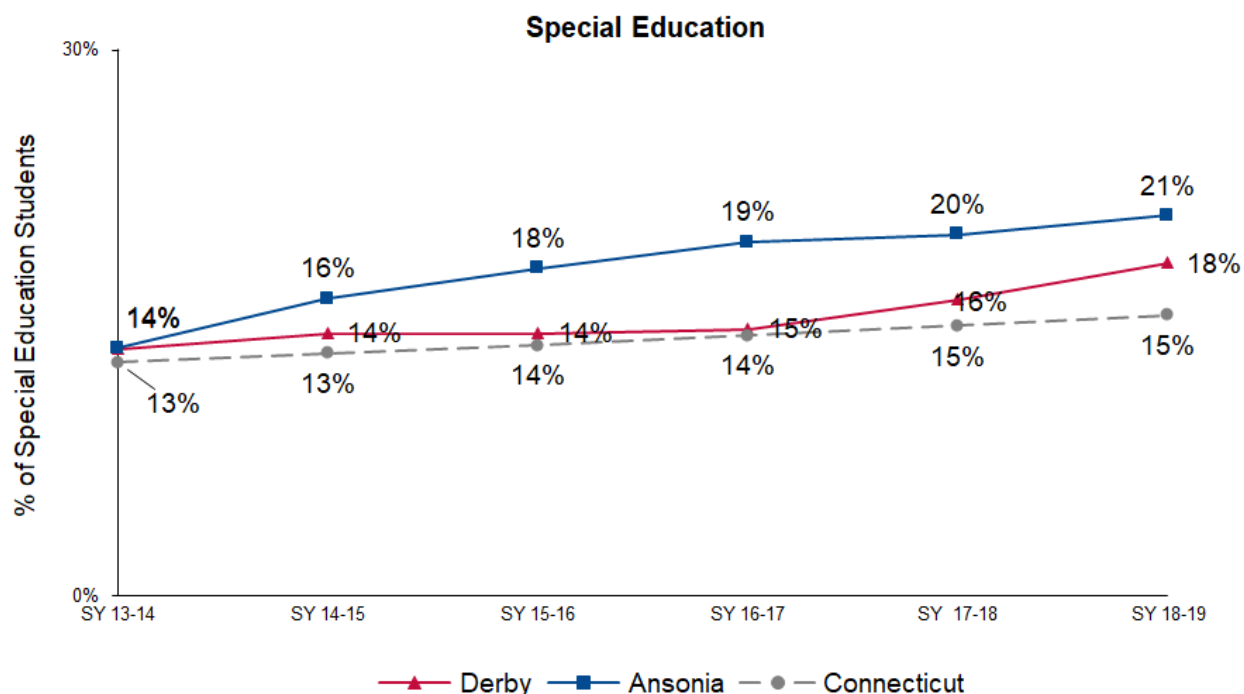
### Research

Research consistently shows that students with mild to moderate disabilities are best served in the least restrictive environment by a content strong teacher with their general education peers. Typically, these students are then best served in a general education classroom (Levenson 119). Levenson states good general education options, such as interventions, plus clear criteria for eligibility will help students and the budget. Only about 1-2% of the student population should then require more specialized services in a separate setting (119).

For that 1-2%, research has found that districts should invest in in-district special education programs to reduce the cost of out-of-district programs. In their article, “Improving Special Education: DMC’s Best Practices for Cost Effectively Raising Achievement,” Levenson and Cleveland argue that small and mid-sized districts should consider establishing in-house programs to reduce the cost of out-of-district programs. In their opinion, “if a district has at least three students with similar needs within the same age range, it may be more cost-effective to establish an in-house program than to place the students in an out-of-district program” (Levenson and Cleveland). In order to run an effective and cost-effective program, the authors suggest hiring staff with the right skills and training, adjusting staffing levels throughout the year as enrollment shifts, and providing dedicated leadership for these programs.

### Current State in Ansonia and Derby

**Enrollment:** Over the past five years, both Ansonia and Derby districts have similar, increasing rates of identifying students with disabilities. Both had rates of 14% in 2013-2014, though Ansonia had increased slightly faster to 21% in 2018-2019 (compared to Derby's 18%). Both rates are also above the state average rate of 15%. See below:



**Out of District:** Both Ansonia and Derby place more special education students out of district than the Connecticut average. See below:

**Special Education Identification Rates and Placement SY16-17**

	Ansonia	Derby	State Average
Special Education Identification Rate	19%	15%	14%
In District	83%	86%	87%
Out of District Public	12%	11%	8%
Out of District Private	6%	4%	5%

**Program Offerings:** Ansonia currently offers these special education programs and settings:

- Push-in and pull-out resource services (PK-12)
- Discrete Trial Instruction/functional life skills (PK - 6)
- ACES MEAD Collaborative (PK - 6)
- Co-teaching (7-8)
- Executive Function/Life Skills (7-8)

- Self-contained (9-12)
- Vocational Education (9-12)
- Pre-Vocational Education (9-12)
- Life Coach Assistant Program (9-12)
- Life Skills (9-12)
- PACE program (includes both general education and special education) (9-12)

Derby currently offers these special education programs and settings:

- Push-in and pull-out resource services (PK-12)
- Learning centers (self-contained programs) (ASD LC, Behavior Support LC, and academic) (PK-5)
- RAISE Academy (grades 7-12) (though not a special education program, a special education teacher works with the program full time and will receive support from the special education supervisor)

### **Impact on Regionalization**

For the majority of students (those with mild to moderate disabilities), regionalization would not have a differential impact on them relative to their general education peers, as both districts offer similar programming and they would continue to receive services in the general education classroom.

*Students who receive more specialized services outside the general education classroom ... could benefit from regionalization.*

Students who receive more specialized services outside the general education classroom, however, could benefit from regionalization for two reasons: because select Derby students could access more extensive programming currently available in Ansonia, and because a regional school district could better consolidate and concentrate services. For example, Derby elementary students could access the ACES MEAD Collaborative, which is currently available to Ansonia students. These returns to scale could allow for more targeted instruction and better trained teachers, not to mention a shorter commute for families. Under a regional district with more students and resources, Ansonia and Derby could assess the disabilities that

drive the most out-of-district placements and could create in-district programming to serve more students in-district. It is important to note, though, that the process of bringing out-of-district students back in-district is not straightforward. Students' IEPs are individually written, and parents have the right to refuse a change in service and keep their children in an out-of-district setting if they prefer.

Special education cost savings are discussed within the Finance section of the report.

### **Score**

No impact for status quo. Some positive impact for all regional scenarios, for the opportunity of sharing and expanding special education services for students.

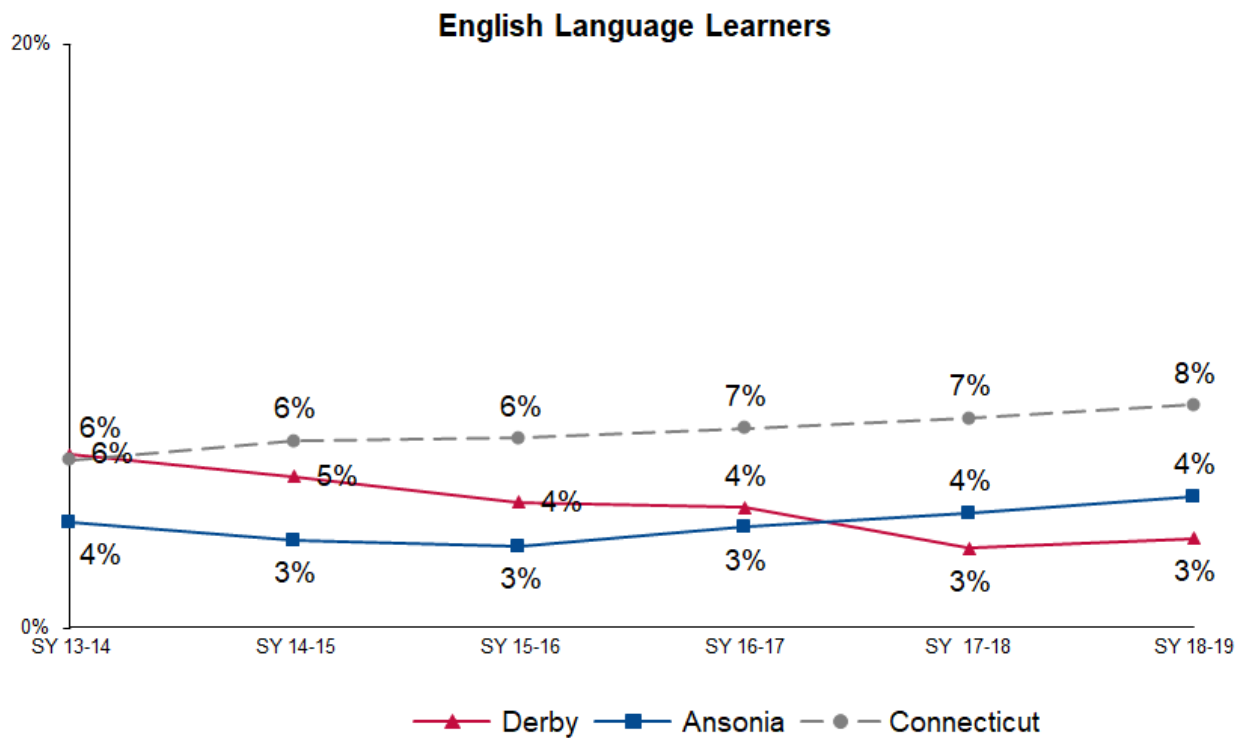
## 7. English Learners

### Research

There is no significant research around English Learners (EL) within the topic of regionalization.

### Current Enrollment in Ansonia and Derby

Relative to the state average, both Ansonia and Derby have small EL populations, ranging from 40 to 104 students, or 3% to 6% of the student body. Interestingly, in Ansonia, EL enrollment has been increasing over the past five years, while EL enrollment has decreased in Derby over the same time period. See the graph below:



### Implications for Regionalization

Similar to students with disabilities, with a bigger EL population, there may be some opportunities to concentrate services for students who speak the same language or have similar language needs. Given the relatively small EL population and limited EL programming in each district, though, there would not be a significant impact on EL relative to other students.

### Score

No impact for non-regionalized scenario. Some impact for regionalized scenarios, for the opportunity to concentrate students with similar needs for services.



### III. Facilities

#### *Key Points:*

- Aside from the Ansonia elementary schools, which are currently exceeding capacity, the remainder of the schools are operating at a low utilization rate. Therefore, there is potential to consolidate schools.
- Both Ansonia and Derby schools have well-maintained facilities, but many facilities are aging and in need of improvements. Derby High School and Ansonia Middle School are in the greatest need of repair, while Derby Middle School and Ansonia High School have limited needs.
- Extensive facility conditions assessments address each building's code violations and recommended improvements; these are located in the Appendix.
- The Office of School Construction Grants & Review provides programs that reimburse districts on various school construction projects. The 2018 rates for Ansonia, Derby and an assumed regionalization average have been applied to many of the recommended projects under these configurations.
- After state reimbursement, improvements would cost approximately \$62,090,000 in the status quo; \$45,770,000 under 9-12 regionalization; \$34,160,000 under 6-12 regionalization; \$32,240,000 under PK-12 regionalization with four elementary schools; and \$24,990,000 under PK-12 regionalization with three elementary schools.
- Based on the building, site, and investment required, Ansonia High School would be the best site for a regional high school (grades 9-12) in all regional scenarios, and Derby Middle School would be the best site for a middle school (grades 6-8) in all regional scenarios with one middle school. Under PK-12 regionalization with three elementary schools, Prendergast, Mead, and Bradley would be the best elementary sites (grades PK-5).
- Both districts house their pre-kindergarten programs within the schools in most need. Under many of the regionalization configurations, these schools would close. Therefore, prekindergarten would relocate to some or all elementary schools regional scenarios.

The next page includes a summary table of the costs associated with each configuration.

### Regionalization Configuration Facility Costs Evaluation

	Status Quo		9-12 Regional			6-12 Regional			PK-12 Regional (4 Elementary)	PK-12 Regional (3 Elementary)
	Ansonia Cost	Derby Cost	Ansonia Cost	Derby Cost	Regional Cost	Ansonia Cost	Derby Cost	Regional Cost	Regional Cost	Regional Cost
ELEMENTARY SCHOOLS	Facility Conditions	Facility Conditions	Facility Conditions	Irving: Facility Conditions & PreK Bradley: Renovates as New		Facility Conditions & PreK renovations	Irving: Facility Conditions & PreK Bradley: Renovates as New		Keep all 4 elementary school open, address facility and site conditions, Renovate as New at Bradley	Consolidate into 3: Close Irving & add additions and Renovate as New to Bradley
	\$ 9,061,050	\$ 14,481,200	\$ 9,061,050	\$ 13,467,677		\$ 9,144,624	\$ 13,467,677		\$ 20,691,563	\$ 13,443,346
MIDDLE SCHOOLS	Facility Conditions	Facility Conditions	Facility Conditions	Facility Conditions				Consolidate into 1 6-12 regional MS: Close AMS & add on to DMS	Consolidate into 1 6-12 regional MS: Close AMS & add on to DMS	Consolidate into 1 6-12 regional MS: Close AMS & add on to DMS
	\$ 14,734,000	\$ 55,500	\$ 14,734,000	\$ 55,500				\$ 3,101,772	\$ 3,101,772	\$ 3,101,772
HIGH SCHOOLS	Facility Conditions	Facility Conditions			Close Derby HS and convert Ansonia to Regional HS with additions			Close Derby HS and convert Ansonia to Regional HS with additions	Close Derby HS and convert Ansonia to Regional HS with additions	Close Derby HS and convert Ansonia to Regional HS with additions
	\$ 5,048,500	\$ 18,710,900			\$ 7,681,750			\$ 7,681,750	\$ 7,681,750	\$ 7,681,750
CENTRAL OFFICES	Status Quo or at districts discretion	Status Quo or at districts discretion			Use Ansonia Central Office - Renovate and Expand for merged staff Office Space			Use Ansonia Central Office - Renovate and Expand for merged staff Office Space	Use Ansonia Central Office - Renovate and Expand for merged staff Office Space	Use Ansonia Central Office - Renovate and Expand for merged staff Office Space
					\$ 766,444			\$ 766,444	\$ 766,444	\$ 766,444
Totals	\$ 28,843,550	\$ 33,247,600	\$ 23,795,050	\$ 13,523,177	\$ 8,448,194	\$ 9,144,624	\$ 13,467,677	\$ 11,549,967	\$ 32,241,529	\$ 24,993,312
Overall Total		\$ 62,091,150			\$ 45,766,421			\$ 34,162,267	\$ 32,241,529	\$ 24,993,312

## Facilities Overview

### *Project Purpose*

This section of the report is based on the facility conditions assessment of both Ansonia and Derby school buildings. This is a visual inspection of the buildings and their systems. The report includes an assessment of the architectural, plumbing, mechanical and electrical systems of these facilities. The report entails broad narrative descriptions of these systems. It describes the visual observations that the architectural and engineering team reviewed during their building walkthroughs. The current district facility managers or a member of the custodial staff was on site during many of the walkthroughs. Recommendations and estimates are included in narrative form and spreadsheets to provide each district with the necessary requirements to upgrade these facilities to meet today's standards. These facility conditions and the associated estimates are also used as a tool to further evaluate possible regionalization configurations.

### *Process*

The Connecticut State Department of Education (CSDE) standard is generally referenced for this study as defined in CGA Statue Sec. 10-220. Duties of boards of education. "(a) Each local or regional board of education shall maintain good public elementary and secondary schools... shall make a continuing study of the need for school facilities and of a long-term school building program and from time to time make recommendations based on such study to the town;" This study will fulfill this duty, once finalized, and approved by both the Ansonia and Derby Board of Education.

Architects, as well as mechanical and electrical engineers conducted extensive on-site facility evaluations and investigations. Town and State records were also reviewed. This data was organized and appears in sections of this report in the form of, building condition narratives and spreadsheets detailing the specific code, repair or maintenance issues or deficiencies, with suggested recommendations including corrective actions, prioritization and associated cost estimates.

### *Codes Governing School Construction*

The following is a list of the current building codes which are applicable for the State of Connecticut, and these codes were used as the basis for the code review for this study. Please note that not all of these codes have been thoroughly reviewed for this study, but major codes with significant cost and life safety implications were reviewed.

#### *State and Federal Codes Governing School Construction*

Current Building Codes

State of Connecticut

Effective October 1, 2018

- 2015 International Building Code
- 2009 ICC/ANSI A117.1 Accessible and Usable Buildings and Facilities
- 2015 International Existing Building Code
- 2015 International Plumbing Code
- 2015 International Mechanical Code
- 2015 International Energy Conservation Code

- 2017 NFPA 70, National Electrical Code, of the National Fire Protection Association Inc.
- 2015 International Residential Code of the International Code Council, Inc.
- 2010 Americans with Disabilities Act (ADA)
  - Title I Employment
  - Title II Government Facilities
  - Title III Public Accommodations

As the codes are updated, they will affect the pertinence of the information contained in this report, and the facilities should be reviewed for the applicable changes in the codes, revising the report accordingly. Most importantly, the codes that are in effect at the time building permits are obtained by a Contractor are the ultimate determinant codes, so changes in the codes and their adoption dates should be closely monitored and planned for.

The building was surveyed to determine compliance with current fire safety, building and health codes and regulations. Most areas of the buildings were investigated, and mechanical, plumbing and electrical violations range from inaccessible (not ADA compliant) plumbing fixtures to inadequate combustion air provisions. The violations observed are noted within the document.

This report is preliminary in nature and not a Construction Document but represents a reasonable accounting of most significant code challenges at this building. However, the definitive determination of code compliance lies in a set of construction documents ready for permitting with the local authorities, primarily the Building Official, Fire Marshal, 504/ADA Coordinator, and Regional Health Director.

### ***Grant Regulatory Requirements for School Construction projects***

Many of the proposed solutions regarding regionalization and facility upgrades are eligible for state reimbursement through the Connecticut Department of Administrative Services and the Office of School Construction Grants and Review. Districts typically seek funding for additions, alterations, roof projects, window replacement projects and full building projects (know as “Renovate as New”). Additionally, there are some options for remediating code violations and energy conservation. These projects require districts to follow the state process and meet a set of criteria.

If districts follow the process and meet criteria, projects are eligible for reimbursement based on the districts’ rate. Typically, reimbursement percentage rates are calculated by the State Department of Education on a yearly basis. The 2019 rates have not been released; therefore, for the purpose of this study, the authors use the 2018 rates of 76.07% for Derby and 77.5% for Ansonia. For all the regionalization scenarios, the authors apply an average of the two rates at 76.78%.

The state has also set an allowable square footage per student that ranges from 104 to 187, depending on grade level and overall school size. The overall size of the building often exceeds the mandated size typically due to existing conditions or program requirements. The overall reimbursement rate is downgraded accordingly based on the size of the building. The authors have applied these calculations to the various configurations represented within this study.

### ***High Performance Building Checklist***

To be eligible for the necessary level of reimbursement, Ansonia and Derby would need new school building projects to be designed in compliance with, or exceed, the High Performance Standards and Guidelines (issued by the CT Department of Administrative Services and the Office of School Construction Grants and Review). These guidelines are similar to the Leadership in Energy and Environmental Design (LEED®) rating system, as established by the United States Green Building Council. While this project is not scheduled to be designed around a LEED standard, it would be designed around the “High Performance Building Standard” that meets the State of Connecticut’s equivalent standard and thus maintain eligibility for state reimbursement.

### **Renovate as New Requirements**

- This concept was developed by the State to encourage Towns to renovate/update their aging, but well built, existing school structures in their entirety, rather than needlessly demolishing them and rebuilding new facilities at a higher cost and greater reimbursement rate from the State.
- A professional opinion on the renovated school MUST state to ‘last’ 20 years from construction, which includes all systems (HVAC, electrical, plumbing), structure, equipment, finishes, etc.
- Most of these repairs, replacements and updates are reimbursed by the State at the town’s reimbursement rate.

The first step in the evaluation of “Renovate as New” is a “feasibility” study. During the course of this study, the architectural team met with facilities and building administrators. Additionally, the architects and mechanical, electrical and plumbing/fire protection engineers scoured buildings to determine the condition of the existing systems. These meetings and field surveys were important to determine the existing and future needs of the school.

Further information on the “Renovate As New” requirements from the Connecticut General Statutes can be found in the appendix.

### **Findings**

This assessment clearly identifies current and future needs which will assist the district or regionalization committee in determining how to continue with the current school’s configuration and evaluate any potential regionalization reconfigurations. Overall, many physical needs arose out of the facility conditions assessment. All the buildings need some physical improvements and upgrades. Both Ansonia Middle School and Derby High School are in the greatest need of improvements. Both have a long list of items that are needed in order to bring these schools up to code and today’s standards. Code compliance issues, restroom renovations and exterior repairs should remain at the top of this list. Both Ansonia

*Both Ansonia Middle School and Derby High School are in the greatest need of improvements. Both have a long list of items that are needed in order to bring these schools up to code and today’s standards. Code compliance issues, restroom renovations and exterior repairs should remain at the top of this list.*

High School and Derby Middle School are in newer conditions with a very limited list of improvements needed. All of the elementary schools have some similar conditions and issues. Both districts added onto their buildings in 1995. At that time, Ansonia fully renovated their two elementary schools bringing the entire building to a like new standard. Both the investment into these buildings and the overall maintenance has kept these buildings in great shape. Derby elementary schools are also very well maintained. The 1995 additions are in good condition, but the remainder of the buildings didn't not receive the same level of renovations and upgrades. Therefore, the Derby elementary schools naturally have a longer list of items to address and improve. All in all, both Derby and Ansonia have four schools with fairly similar conditions. Any renovations, especially "renovate as new" renovations, would require the temporary shifting of students. However, it is likely that all buildings could remain open during renovations, with the closing and moving of students one wing at a time. Prior to beginning renovations, a contractor would support the district(s) in determining the pacing of renovation and movement of students. Findings do not include the cost of demolition or repurposing buildings to other uses.

On the following pages, charts describe the size of the buildings their existing classrooms and size of existing cafeterias. They then investigate how many students would now need to fit into these schools and what the requirements to accommodate the students are within these scenarios. Floor plan diagrams are based off of charts and the associated estimates for renovations.

## Facility Evaluations: All Schools

ANSONIA & DERBY SCHOOLS		Building Evaluation						Site Evaluation				Investment Evaluation								Score & Benchmarking			
		Data	Evaluation	Data	Evaluation	Data	Evaluation	Data	Evaluation	Data	Evaluation	Data	Evaluation	Data	Evaluation	Data	Evaluation	Data	Evaluation	Evaluation	Benchmarking		
		School area square feet	Site of facility small to large	Year originally constructed	Age of facility, old to new	"Total full size classrooms"	Student Capacity	Potential classroom capacity, small to large	Site area in Acres	Site of site small to large	Site Amenities	Importance from small to large	Prior Construction / modification type	Age of improvement nt, old to newest	Prior Construction Investment (SCG Data)	Prior Construction "Investment"	Facility Conditions Improvement Recommendations	Potential Construction "Investment"	Site Conditions Improvements Recommendations	Potential Site "Investment"	Total Score	Current Appraised Value (Buildings & Land)	Replacement facility @ \$450/SF
Elementary Schools	Ansonia - Mead Elementary School	81,051	3.0	1968	4.0	31	600	3.0	21.30	4.0	Wetlands & Slopes	4.0	1995 Additions & Improvements & 2011 Roof	2.0	\$12,681,382	4.0	\$3,858,500	4.0	\$250,000	3.0	31.0	\$10,889,100	\$36,472,950
	Ansonia - Prendergast Elementary School	87,052	4.0	1965	3.0	34	650	4.0	7.40	2.0	Expansion possible	2.0	1995 Additions & Improvements & 2011 Roof	2.0	\$9,257,229	3.0	\$4,452,550	3.0	\$500,000	2.0	25.0	\$8,699,300	\$39,173,400
	Derby - Bradley Elementary School	45,500	1.0	1960	1.0	21	486	1.0	16.10	3.0	Good play, limited expansion	3.0	1995 Addition & Improvements & 2014 Roof	1.0	\$4,601,005	2.0	\$7,345,700	1.0	\$400,000	1.0	14.0	\$4,074,700	\$20,475,000
	Derby - Irving Elementary School	59,100	2.0	1953	2.0	22	509	2.0	4.70	1.0	Impractical Expansion	1.0	1995 Addition & Improvements & 2014 Roof	1.0	\$4,180,716	1.0	\$6,485,500	2.0	\$250,000	3.0	15.0	\$6,394,380	\$26,595,000
Middle Schools	Ansonia Middle School	134,211	2.0	1936	1.0	35	700	2.0	4.50	1.0	Inadequate site	1.0	1995 Improvements & 2011 Roof	1.0	\$11,850,640	1.0	\$14,134,000	1.0	\$600,000	1.0	11.0	\$11,832,800	\$60,394,950
	Derby Middle School	72,311	1.0	2009	2.0	21	529	1.0	48.20	2.0	New Sports Complex	2.0	New School 2009	2.0	\$28,000,000	2.0	\$55,500	2.0	\$0	2.0	16.0	See DHS below	\$32,539,950
High Schools	Ansonia High School	165,420	2.0	1999	2.0	35	700	1.0	60.50	2.0	Wetlands, Site functions well	1.0	New School 1999	2.0	\$23,518,350	2.0	\$4,548,500	2.0	\$500,000	2.0	16.0	\$32,863,000	\$74,439,000
	Derby High School	144,350	1.0	1968	1.0	32	744	2.0	48.20	1.0	New Sports Complex	2.0	No Information	1.0	\$0	1.0	\$17,210,900	1.0	\$1,500,000	1.0	11.0	\$25,810,100	\$64,957,500
Totals		788,995				231	4,917		26						\$94,089,322		\$58,091,150		\$4,000,000			\$100,563,380	\$355,047,750

## Regionalization Configurations

### Status Quo

#### Facilities Used:

- Ansonia Local District: Mead (K-6), Prendergast (K-6), Ansonia Middle School (PK, 7-8), Ansonia High School (9-12)
- Derby Local District: Bradley (K-5), Irving (K-5), Derby Middle School (6-8), Derby High School (PK, 9-12)

**Total Cost of Renovations:** \$62,090,000

**State Reimbursement:** \$0

**Total Cost to Cities:** \$62,090,000

**Description:** During this study, architects and engineers conducted facility and site assessments. They identified items during walkthroughs that address each buildings' code compliance, American Disability Act violations, physical infrastructure improvements, architectural upgrades and site needs. The total estimate for these violations and recommendations is included as the associated cost of this Status Quo option. Some items are more critical and should be address soon, while others are recommendations that aren't necessarily required or need to be done right away.

**Status Quo: Facilities Evaluation and Cost**

ANSONIA & DERBY SCHOOLS		Existing Classroom/Capacity Evaluation					Facility Cost		
		Existing School area square feet	Current Enrollment	Max Current Student Capacity	Current Utilization	Existing "Total full size classrooms"	Ansonia Cost	Derby Cost	Renovates as new cost after state reimbursement (for evaluation)
							Facility & Site Conditions	Facility & Site Conditions	
Elementary Schools PreK - 5th	Ansonia - Mead Elementary School	81,051	619	600	103%	31	\$ 4,108,500		\$ 6,382,766
	Ansonia - Prendergast Elementary School	87,052	644	650	99%	34	\$ 4,952,550		\$ 6,855,345
	Derby - Bradley Elementary School	45,500	252	486	52%	21		\$ 7,745,700	\$ 6,718,248
	Derby - Irving Elementary School	59,100	313	509	62%	22		\$ 6,735,500	\$ 11,401,303
Middle Schools	Ansonia Middle School	134,211	339	700	48%	35	\$ 14,734,000		\$ 19,306,252
	Derby Middle School	72,311	350	529	66%	21		\$ 55,500	\$ 6,056,408
High Schools	Ansonia High School	165,420	609	700	87%	35	\$ 5,048,500		\$ 30,974,895
	Derby High School	144,350	347	744	47%	32		\$ 18,710,900	\$ 32,677,397
Total							\$ 28,843,550	\$ 33,247,600	



### Shared Central Office

**Facility Used:** Ansonia Public Schools central office

**Total Cost of Renovations:** \$1,240,000

**State Reimbursement:** \$480,000

**Total Cost to Cities:** \$770,000

**Description:** The following describes the facilities required for any scenario with a shared central office. For space planning purposes, the authors estimate about 19 people in Ansonia's central office and 15 people in Derby's; therefore, a joint central office would likely be around 25 people (see Finance section for details).

Derby Central Office is in a shared town office building with other tenants such as Parks and Recreation. It does not appear to be a good fit for a merged regional central office space without more detailed information. Ansonia Central Office is in a small free-standing office building with needs of expansion and some potential room. Further study will be required to determine the best location to house this regionalized Central Office but for this concept, the authors work with the idea of expanding Ansonia's facility. It would entail removing portable structures on site, providing a light renovation to the existing building and providing an addition to meet the needs of a 25-person office. The central office renovations and additions would qualify for state reimbursement at half of the district's reimbursement rate.

Note that Facilities Evaluation and Cost tables on the following pages *exclude* the \$770,000 cost, but estimates in the narrative of each configuration *include* this cost.

#### CONCEPT DIAGRAM FOR SHARED CENTRAL OFFICE



## 9-12 Regional

### Facilities Used:

- Ansonia Local District: Mead (K-6), Prendergast (K-6), Ansonia Middle School (PK, 7-8)
- Derby Local District: Bradley (PK-5), Irving (PK-5), Derby Middle School (6-8)
- Regional School District 20: Ansonia High School (9-12), Shared Central Office in Ansonia

**Total Cost of Renovations:** \$52,420,000

**State Reimbursement:** \$6,650,000

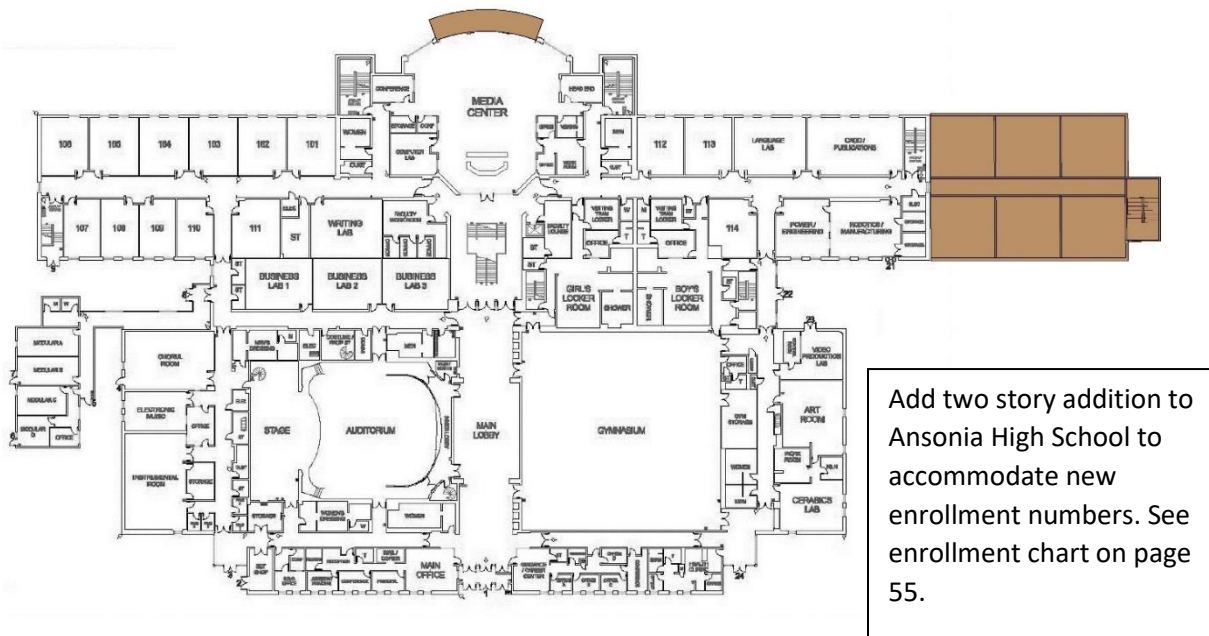
**Total Cost to Cities:** \$45,770,000

**Description:** Ansonia High School and Derby High School would need to combine into one facility. DHS needs significant more investment for improvements and upgrades, while AHS still like new. It therefore makes sense to avoid the cost of renovations to DHS and provide the needed addition at AHS. The addition would qualify for state reimbursement.

Additionally, once DHS is closed, the prekindergarten population of Derby could relocate to the elementary schools. This type of alteration would be eligible for state reimbursement. Additionally, for this scenario and other regional scenarios, it is fiscally beneficial to include Bradley as a “Renovate as New” project. In this case, the entire Bradley facility would be upgraded to a like new standard. With state reimbursement, it would cost the district less than addressing all facility condition items and pre-K alterations at Bradley.

Finally, Derby Middle School does not currently have an auditorium, and with the closing of DHS the middle school would not have access to an auditorium on campus. Therefore, the DMS would only have a cafetorium. While not uncommon for middle schools, this is often less desired than having a cafeteria and auditorium.

### CONCEPT DIAGRAM FOR REGIONALIZED HIGH SCHOOL



## 9-12 Regionalization: Facilities Evaluation and Cost

ANSONIA & DERBY SCHOOLS		Existing Classroom/Capacity Evaluation					Proposed Classroom/Capacity Planning				Addition Size Planning										Facility Cost				
		Existing School area square feet	Current Enrollment	Max Current Student Capacity	Current Utilization	Existing "Total full size classrooms"	Proposed Additional "Full size classrooms"	"Proposed Total full size classrooms"	Proposed & Projected Student Enrollment	Proposed Utilization	Cafeteria Planning			Classroom net sq. ft. (based on 900 per classroom)	cafeteria addition in net square feet	Special ed or special increase per new population - add 20%	Gross square foot factor @ 35%	Gross square foot total	Relocate PreK to elementary schools - Reno cost (\$60,000 per class)	Regional Cost		Reimbursement	Ansonia Cost	Derby Cost	
											existing cafeteria net square feet	students per lunch wave (3)	cafeteria size (3 waves)							Addition based on \$500 per square foot	Facility & Site Conditions included with Addition	Potential State Reimbursement on Alterations or Additions (74.78% max)	Facility & Site Conditions	Facility & Site Conditions with PreK Alterations	
Elementary Schools PreK - 5th	Ansonia - Mead Elementary School	81,051	619	600	103%	31															limited - none assumed	\$ 4,108,500			
	Ansonia - Prendergast Elementary School	87,052	644	650	99%	34															limited - none assumed	\$ 4,952,550			
	Derby - Bradley Elementary School	45,500	252	486	52%	21												2 classrooms included in Reno		\$ 15,925,000	\$ 9,206,752		\$ 6,718,248		
	Derby - Irving Elementary School	59,100	313	509	62%	22												\$ 60,000			\$ 46,071		\$ 6,749,429		
	Assumes the Renovate As New Process																								
Middle Schools	Ansonia Middle School	134,211	339	700	48%	35													PreK stays here			limited - none assumed	\$ 14,734,000		
	Derby Middle School	72,311	350	529	66%	21															limited - none assumed		\$ 55,500		
																							\$ 23,795,050	\$ 13,523,177	
High Schools	Ansonia High School	165,420	609	700	87%	35	10	45	911	97%	4,500	305	4,880	9,000	400	1,880	35%	15,228		\$ 7,614,000	\$ 12,662,500	\$ 4,980,750			
	Derby High School	144,350	347	744	47%	32				98%	2,500	305	4,880	7,200	2,400	1,920	35%	15,552		\$ -	<del>\$ 18,710,000</del>				
	High School Capacity - 911																			\$ 7,614,000	\$ 12,662,500	\$ 4,980,750	total with state reimbursement	\$ 7,681,750	
OR																									
High Schools	Ansonia High School	165,420	609	700	87%	35				98%	4,500	305	4,880							\$ -	<del>\$ 6,048,600</del>		Not used, due to larger cost		
	Derby High School	144,350	347	744	47%	32	8	40	911	98%	2,500	305	4,880	7,200	2,400	1,920	35%	15,552		\$ 7,776,000	\$ 26,486,900	\$ 5,746,685			
	High School Capacity - 911																			\$ 7,776,000	\$ 26,486,900	\$ 5,746,685	total with state reimbursement	\$ 20,740,215	

## 6-12 Regionalization

### Facilities Used:

- Ansonia Local District: Mead (PK-5), Prendergast (PK-5)
- Derby Local District: Bradley (PK-5), Irving (PK-5)
- Regional School District 20: Derby Middle School (6-8), Ansonia High School (9-12), Shared Central Office in Ansonia

**Total Cost of Renovations:** \$51,170,000

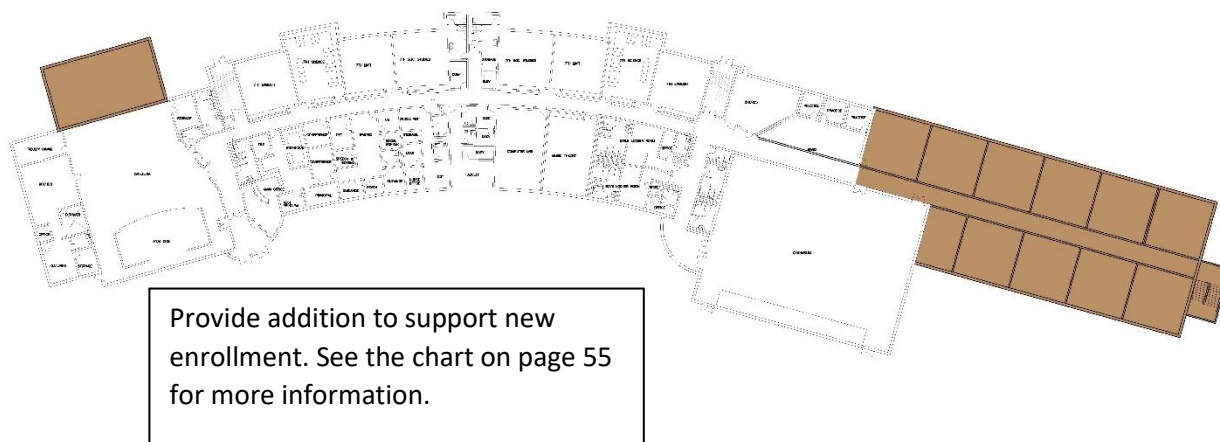
**State Reimbursement:** \$17,010,000

**Total Cost to Cities:** \$34,160,000

**Description:** Derby Middle School was the obvious selection, considering its like-new condition, opposed to the costly needs at Ansonia Middle School, including a severely undersized site. The challenge is the site and space to provide an addition at Derby Middle School. The slope is steep at the rear and the roadway infrastructure for the two buildings is at the front. The sides would be the best option for expansion. Where the addition is depicted, it would require building infrastructure modifications. Further study would be needed to determine the best placement of such an addition. This is the representation of the size needed to support a population of such students. This addition would also qualify for state reimbursement.

As AMS would close, the pre-kindergarten population of Ansonia would relocate to the elementary schools. With the removal of 6<sup>th</sup> grade, building space could become available. This type of alteration would also receive state reimbursement.

### CONCEPT DIAGRAM FOR REGIONALIZED 6-12 MIDDLE SCHOOL



## 6-12 Regionalization: Facilities Evaluation and Cost

ANSONIA & DERBY SCHOOLS		Existing Classroom/Capacity Evaluation					Proposed Classroom/Capacity Planning				Addition Size Planning								Facility Cost						
		Existing School area square feet	Current Enrollment	Max Current Student Capacity	Current Utilization	Existing "Total full size classrooms"	Proposed Additional "full size classrooms"	"Proposed Total full size classrooms"	Proposed & Projected Student Enrollment	Proposed Utilization	Cafeteria Planning			Classroom net sq. ft (based on 900 per classroom)	café addition in net square feet	Special ed or special increase per new population - add 20%	Gross square foot factor @ 35%	Gross square foot total	Relocate PreK to elementary school - Reno cost (\$60,000 per class)	Regional Cost		Reimbursement	Ansonia Cost	Derby Cost	
											existing café net square feet	students per lunch wave (3)	café size (3 waves)							Addition based on \$500 per square foot	Facility & Site Conditions Included with Addition	Potential State Reimbursement on Alterations or Additions (76,785 max)	Facility & Site Conditions with PreK Alterations	Facility & Site Conditions with PreK Alterations	
Elementary Schools PreK - 5th	Ansonia - Mead Elementary School	81,051	619	600	103%	31													180,000			\$ 138,213	\$ 4,150,287		
	Ansonia - Prendergast Elementary School	87,052	644	650	99%	34													180,000			\$ 138,213	\$ 4,994,337		
	Derby - Bradley Elementary School	45,500	252	486	52%	21													2 classrooms included in Reno	\$ 15,925,000	\$ 9,206,752	total with state reimbursement	\$ 6,718,248		
	Derby - Irving Elementary School	59,100	313	509	62%	22													\$ 60,000			\$ 46,071		\$ 6,749,429	
																								\$ 9,144,624	\$ 13,467,677
Middle Schools	Ansonia Middle School	124,311	228	700	48%	25				48%	2,400										\$ 14,724,000				
	Derby Middle School	72,311	350	529	66%	21	16	37	900	99%	3,100	300	4,875	14,400	1,800	3,240	35%	26,244		\$ 13,122,000	\$ 13,177,500	\$ 10,075,728			
	Middle School Capacity - 900																			\$ 13,122,000	\$ 13,177,500	\$ 10,075,728	total with state reimbursement	\$ 3,101,772	
High Schools	Ansonia High School	165,420	609	700	87%	35	10	45	911	97%	4,500	304	4,859	9,000	400	1,880	35%	15,228		\$ 7,614,000	\$ 12,662,500	\$ 4,980,750			
	Derby High School	144,350	247	744	47%	22				47%	2,500										\$ 18,710,900				
	High School Capacity - 911																			\$ 7,614,000	\$ 12,662,500	\$ 4,980,750	total with state reimbursement	\$ 7,681,750	

### ***PK-12 Regionalization (4 elementary)***

#### **Facilities Used:**

- Regional School District 20: Bradley (PK-5), Irving (PK-5), Mead (PK-5), Prendergast (PK-5), Derby Middle School (6-8), Ansonia High School (9-12), Shared Central Office in Ansonia

**Total Cost of Renovations:** \$51,170,000

**State Reimbursement:** \$18,930,000

**Total Cost to Cities:** \$32,240,000

**Description:** The buildings used in this scenario are identical to those under 6-12 regionalization. However, with regionalization, the enrollment of each school can be altered and improved for better utilization throughout the four elementary schools. With a larger enrollment at Bradley, the overall allowable reimbursement for the “Renovate as New” project will increase reducing the overall cost to the district. See the following page for facilities evaluations and cost.

## PK-12 (4 Elementary) Regionalization: Facilities Evaluation and Cost

ANSONIA & DERBY SCHOOLS		Existing Classroom/Capacity Evaluation					Proposed Classroom/Capacity Planning				Addition Size Planning										Facility Cost			
		Existing School area square feet	Current Enrollment	Max Current Student Capacity	Current Utilization	Existing "Total full size classrooms"	Proposed Additional "full size classrooms"	"Proposed Total full size classrooms"	Proposed & Projected Student Enrollment	Proposed Utilization	Cafeteria Planning			Classroom net sq. ft (based on 900 per classroom)	café addition in net square feet	Special ed or specials increase per new population - add 20%	Gross square foot factor @ 35%	Gross square foot total	Relocate Prek to elementary schools - Reno cost (\$60,000 per class)	Regional Cost		Reimbursement	Total	
											existing café net square feet	students per lunch wave (3)	café size (3 waves)							Addition based on \$500 per square foot	Facility & Site Conditions Included with Addition or Reno	Potential State Reimbursement on Alterations or Additions (76.78% max)	Total Regional Share based on state reimbursement	
Elementary Schools PreK - 8th	Ansonia - Mead Elementary School	81,051	619	600	103%	31	0	31	530	88%									180,000		\$ 4,288,500	\$ 138,213	\$ 4,150,287	
	Ansonia - Prendergast Elementary School	87,052	644	650	99%	34	0	34	575	88%									180,000		\$ 5,132,550	\$ 138,213	\$ 4,994,337	
	Derby - Bradley Elementary School	45,500	252	486	52%	21	0	21	330	68%									In reno cost		\$ 15,925,000	\$ 11,127,490	\$ 4,797,510	
	Derby - Irving Elementary School	59,100	313	509	62%	22	0	22	325	64%									60,000		\$ 6,795,500	\$ 46,071	\$ 6,749,429	
	Elementary School Capacity - 1,759		1828	2,245	81%	108	3	86	1760	82%														
Middle Schools	Ansonia-Middle-School	134,311	330	700	48%	36				48%	3,400									\$ -	\$ 14,734,000			
	Derby Middle School	72,311	350	529	66%	21	16	37	900	99%	3,100	300	4,875	14,400	1,800	3,240	35%	26,244		\$ 13,122,000	\$ 13,177,500		\$ 3,101,772	
	Middle School Capacity - 900																							
High Schools	Ansonia High School	165,420	609	700	87%	35	10	45	911	97%	4,500	304	4,859	9,000	400	1,880	35%	15,228		\$ -	\$ 5,048,500		\$ 7,681,750	
	Derby High School	144,350	247	744	47%	32				47%	3,500									\$ -	\$ 18,710,000			
	High School Capacity - 911																			\$ 13,122,000	\$ 50,367,550		\$ 31,475,085	



### **PK-12 Regionalization (3 elementary)**

#### **Facilities Used:**

- Regional School District 20: Bradley (PK-5), Mead (PK-5), Prendergast (PK-5), Derby Middle School (6-8), Ansonia High School (9-12), Shared Central Office in Ansonia

**Total Cost of Renovations:** \$46,840,000

**State Reimbursement:** \$21,850,000

**Total Cost to Cities:** \$24,990,000

**Description:** With the low utilization rates of the Derby elementary schools, this scenario closes one elementary school and maximizes useable space at the other three schools for the regionalized elementary population. As both Ansonia schools are at capacity, Irving and Bradley were the two candidates under consideration to close. Irving is impractical to add on to, while a small addition at Bradley is reasonable. Therefore, rather than improving Irving as in the prior scenario, this option closes Irving and adds onto Bradley. The enrollment across both cities could then be distributed to the three schools. Under this scenario, the enrollment at Bradley reaches the maximum allowable reimbursement for a “Renovate as New” project, which further reduces the overall cost to cities.

#### **CONCEPT DIAGRAM FOR BRADLEY ELEMENTARY SCHOOL (PK – 5)**





### PK-12 Regionalization (3 elementary): Facilities Evaluation and Cost

ANSONIA & DERBY SCHOOLS		Existing Classroom/Capacity Evaluation					Proposed Classroom/Capacity Planning				Addition Size Planning								Facility Cost				
		Existing School area square feet	Current Enrollment	Max Current Student Capacity	Current Utilization	Existing "Total full size classrooms"	Proposed Additional "full size classrooms"	"Proposed Total full size classrooms"	Proposed & Projected Student Enrollment	Proposed Utilization	Cafeteria Planning			Classroom net sq. ft (based on 900 per classroom)	cafeteria addition in net square feet	Special ed or specials increase per new population - add 20%	Gross square foot factor @ 35%	Gross square foot total	Relocate Prek to elementary schools - Reno cost (\$60,000 per class)	Regional Cost		Reimbursement	Total
											existing cafeteria net square feet	students per lunch wave (3)	cafeteria size (3 waves)							Addition based on \$500 per square foot	Facility & Site Conditions Included with Addition or Reno	Potential State Reimbursement on Alterations or Additions (76.78% max)	Total Regional Share based on state reimbursement
Elementary Schools PreK - 5th	Ansonia - Mead Elementary School	81,051	619	600	103%	31	0	31	590	98%									180,000		\$ 4,288,500	\$ 138,213	\$ 4,150,287
	Ansonia - Prendergast Elementary School	87,052	644	650	99%	34	0	34	640	98%									180,000		\$ 5,132,550	\$ 138,213	\$ 4,994,337
	Derby - Bradley Elementary School	45,500	252	486	52%	21	3	24	530	95%	2,500	180	2,925	2,700	500	640	35%	5,184	In addition cost	\$ 2,592,000	\$ 18,517,000	\$ 14,218,278	\$ 4,298,722
	Derby - Irving Elementary School	59,100	313	508	62%	22	0	22	0	62%	4,000										\$ -6,735,500		
	Elementary School Capacity - 1,759			1828	2,245	81%	108	3	89	1760	97%												
Middle Schools	Ansonia Middle School	134,211	399	700	48%	36				48%	3,400										\$ -14,734,000		
	Derby Middle School	72,311	350	529	66%	21	16	37	900	99%	3,100	300	4,875	14,400	1,800	3,240	35%	26,244		\$ 13,122,000	\$ 13,177,500	\$ 10,075,728	\$ 3,101,772
	Middle School Capacity - 900																						
High Schools	Ansonia High School	165,420	609	700	87%	35	10	45	911	97%	4,500	304	4,859	9,000	400	1,880	35%	15,228		\$ 7,614,000	\$ 12,662,500	\$ 4,980,750	\$ 7,681,750
	Derby High School	144,350	347	244	47%	22				47%	2,500										\$ -18,710,800		
	High School Capacity - 911																			\$ 23,328,000	\$ 53,778,050		\$ 24,226,868

## IV. Enrollment

### Key Points:

- Despite stable populations totals and a significant aging population, both Ansonia and Derby have experienced upticks in school-aged population (ages 5-17) over the last decade. However, these population increases have not yielded increasing enrollments in the public schools.
- While housing construction is minimal in both communities, housing sales increased significantly between 2011 and 2016-17. Sales have plateaued since 2016 at relatively high levels, while rental vacancy rates are estimated to be higher in both communities than in the County or State. Indicators that turnover in existing housing stock important for bringing new households and families to communities.
- Though both Ansonia and Derby K-12 enrollments have declined 13-14% over the past decade, Ansonia's total enrollment has been relatively stable over the last five years, while Derby's has decreased by 15% in the same time span.
- Enrollment for Ansonia's elementary schools is projected to increase modestly (3%) over the next five years. The Ansonia Middle School (7<sup>th</sup> and 8<sup>th</sup> grade) is projected to increase 7% over the next five years and continue to increase out ten years. Ansonia High is projected to decrease about 10% over the next five years before modestly regaining.
- Enrollment for Derby's elementary schools is projected to decrease 13% over the next five years before levelling off. Derby Middle School (6<sup>th</sup> – 8<sup>th</sup>) is projected to decrease significantly over the next five years by 25% or more, and the High School is projected to remain stable over the next five years before starting to decrease, due to smaller incoming cohorts.

The following comprehensive enrollment analyses and enrollment projections were prepared by Milone & MacBroom to understand existing conditions and trends in both Ansonia and Derby. The projections also serve to assist the TRSSC in evaluating potential regional alternative models.

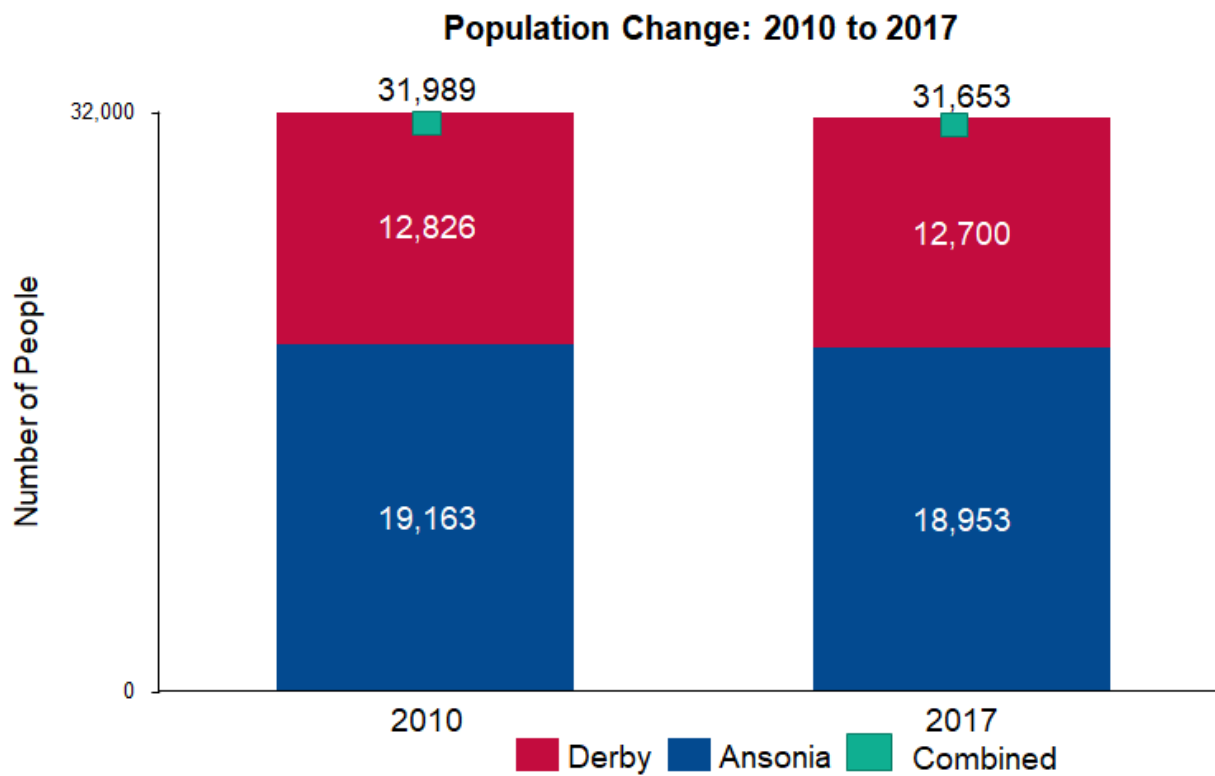
### Comprehensive Enrollment Analysis

#### Total Population

Ansonia's overall population has grown by 4% from 2000 to 2010, but is estimated to have remained stable, if not down slightly, between 2010 and 2017. Ansonia is home to just under 19,000 people, according to the most recent Census estimates available. While the total population in Ansonia has remained stable, the community is aging. This is especially apparent in the southeastern portion of the City, which has the highest density of home ownership units and where more than 30% of households

are headed by someone over the age of 65. This represents an area ripe for housing turnover in the next ten to fifteen years, and an area that will be attractive to young families.

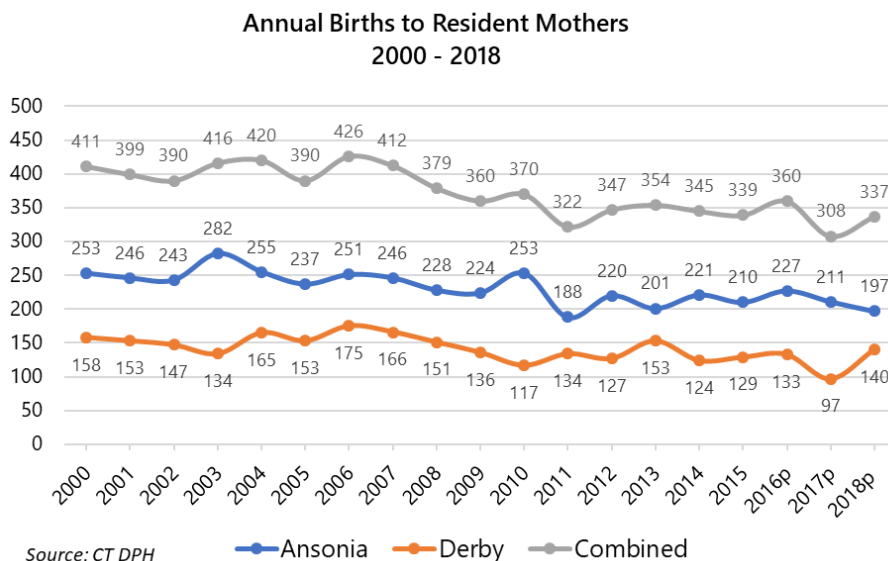
Derby's overall population change is similar in that it grew 4% between 2000 and 2010, but remained stable, if not down slightly, to an estimated 12,700 people in 2017. While not as significant as in Ansonia, the eastern side of Derby also has a larger proportion of householders over the age of 65 (20% – 25%). This part of the City also has more single-family owner-occupied housing units, indicating that it may also be ripe for housing turnover in the coming decade, as new families are attracted to the homes currently occupied by older residents



### **Births**

Ansonia had an average annual birth rate of approximately 240 per year during the late 2000s, which decreased to an average of approximately 210 per year since 2010. In Derby, annual births have averaged around 130 per year since 2010, except for an abnormally low 2017. Derby's average annual

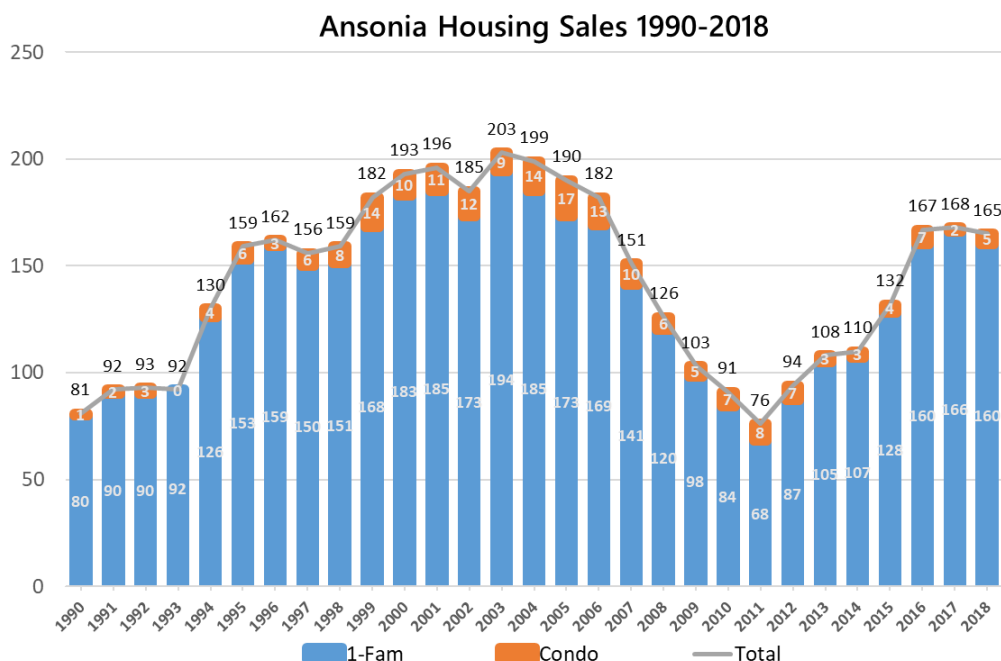
birth rate is about 20% below peak levels from the mid-2000s, though it has slightly increased over the last several years.

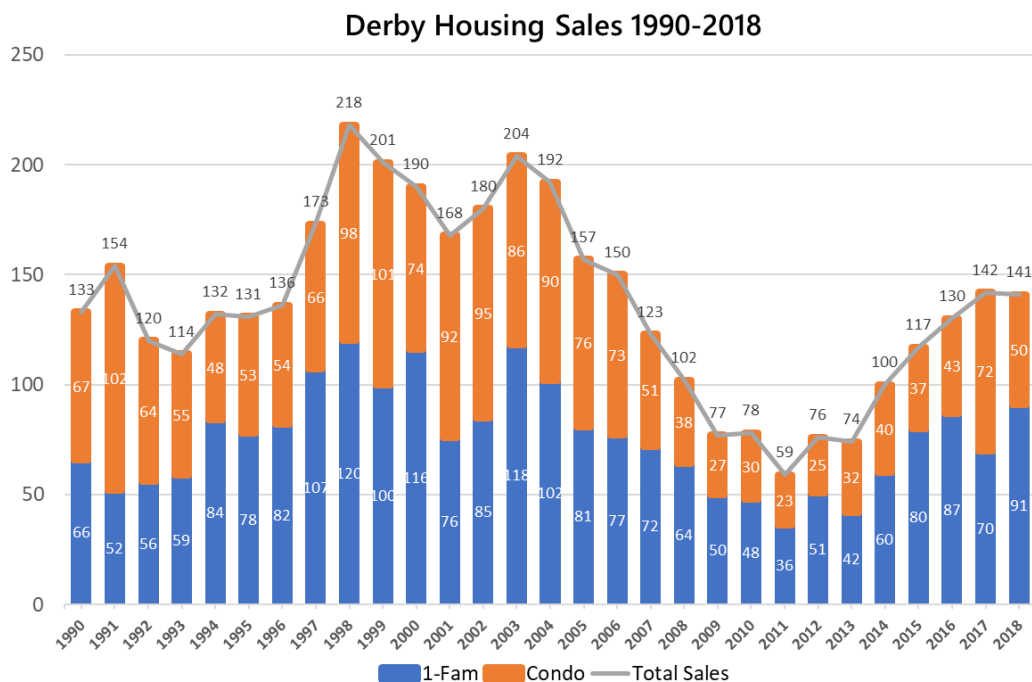


## Housing

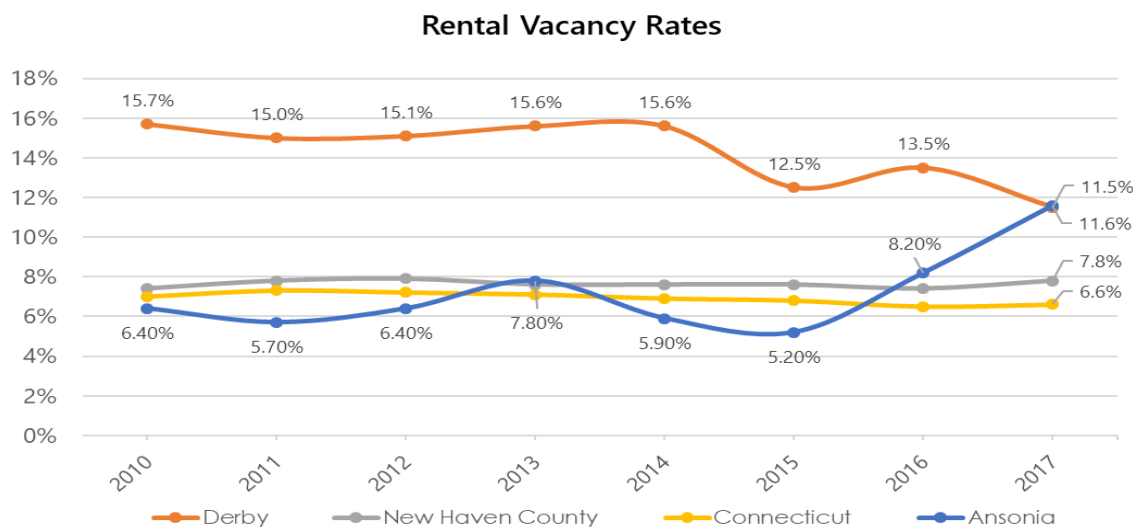
Home sales in both communities have steadily increased between 2011 and 2016, as the housing market recovered from the Great Recession. While still below mid-2000s housing market levels of 190 – 200 sales per year, Ansonia had almost 170 sales per year from 2016 through 2018. However, the increasing trend appears to have reached a plateau over the last three years.

Home sales in Derby have also increased since 2011. Similar to Ansonia, sales appear to have reached a plateau over the last two to three years, averaging 137 sales per year since 2016. This remains well below the sales activity of the early 2000s.



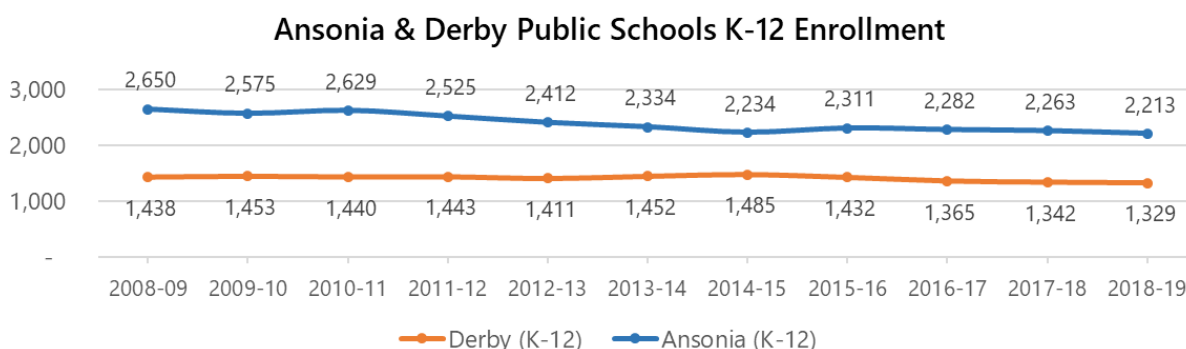


Rental housing comprises approximately 40% of the housing stock of both Ansonia and Derby, and contributes to a more transient population. Local market area fluctuations in rental vacancy rates further contribute to transiency. In both communities, rental housing stock is concentrated in the Downtown and core areas. While Ansonia’s rental vacancy rate is typically in line with the County and State rates, Derby’s rental vacancy rate has typically been about double those rates. However, over the last couple of years, Ansonia’s vacancy rate has increased, while Derby’s has decreased such that the two were even at around 11.5% in 2017. That exceeds the vacancy rate of New Haven County and Connecticut, which were at 7.8% and 6.6% respectively.



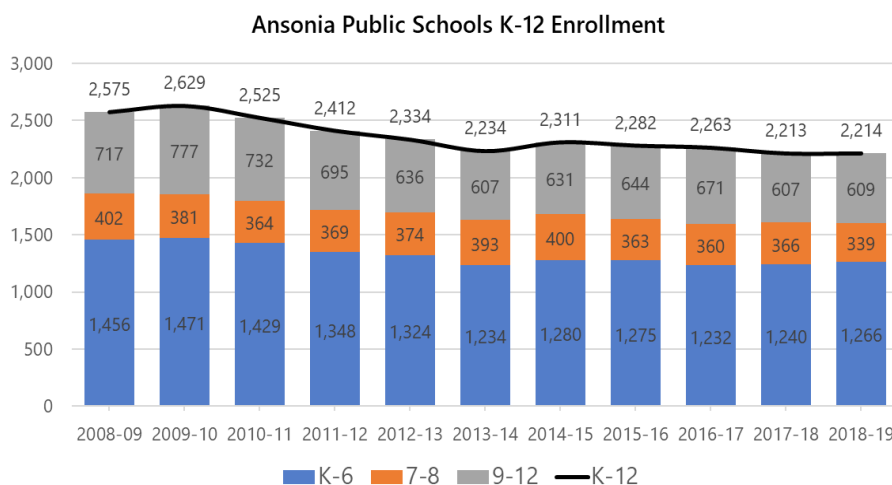
## Enrollment History & Trends

Total enrollments for both school districts have decreased over the last decade (approximately 14% in Ansonia and 13% in Derby). However, while Ansonia's decline appears to be levelling off, Derby has experienced significant decline over the last three years. It is important to note that when comparing the districts' enrollments by grade groupings, Ansonia groups only 7<sup>th</sup> and 8<sup>th</sup> graders for middle school, while Derby groups 6<sup>th</sup> – 8<sup>th</sup> graders for middle school.



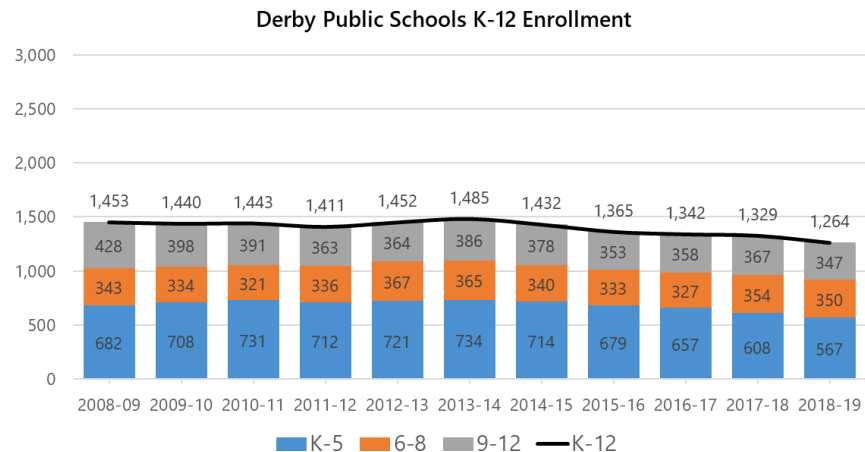
Ansonia Public Schools have declined from 2,575 K-12 students in 2008-09 to 2,214 students in 2018-19. This decline occurred during a period of static total population, and when average annual birth rates of approximately 240 per year during the late 2000s decreased to an average of approximately 210 per year since 2010.

Decreasing enrollment trends have started to plateau, with only a 2% overall K-12 decrease over the past three years. Elementary has increased almost 3% over the past 3 years while middle and high school enrollments have each decreased 2%, and 9% respectively over the last three years. Increased housing sales have likely contributed to this growth.



Total enrollments for Derby Public Schools have decreased roughly 13% over the last decade from 1,453 students in 2008-09 to 1,264 students in 2018-19 across the district. This decline occurred during a period of very slow population growth. The average annual birth rate of approximately 160 births per year during the mid-2000's declined to

approximately 125 births per year over the last 5 years. Despite positive housing market trends, decline in the elementary schools has been particularly noticeable over the last three years, with a 14% decrease in K-5 enrollment. Middle and high school enrollment has changed less significantly, increasing 7% for the middle school and decreasing 3% for the high school.



### Historical Enrollment Trends by Grade

The following historical enrollment table of Ansonia Public Schools demonstrate transiency in the population. Years such as 2011-12 and 2014-15 featured kindergarten class sizes considerably different than the years prior, despite similar birth cohorts. Also, variations in the pattern of growth and contraction of a class as it matriculates through the school system, are apparent from year to year.

**Ansonia Public Schools District Enrollment by Grade**

School Year	Birth Year	Births	K	1	2	3	4	5	6	7	8	9	10	11	12	PK
2007-08	2002	243	229	234	233	223	190	186	182	203	211	239	184	174	162	
2008-09	2003	282	224	233	203	216	216	184	180	191	211	233	175	152	157	
2009-10	2004	255	199	249	199	213	218	208	185	184	197	246	206	165	160	
2010-11	2005	237	204	213	201	193	215	203	200	180	184	206	207	173	146	
2011-12	2006	251	174	212	194	189	188	204	187	187	182	188	157	174	176	
2012-13	2007	246	176	199	181	193	188	186	201	185	189	172	158	132	174	91
2013-14	2008	228	165	193	169	177	168	178	184	205	188	184	147	139	137	104
2014-15	2009	224	197	192	176	170	183	182	180	189	211	170	187	132	142	104
2015-16	2010	253	206	191	173	172	169	184	180	172	191	192	169	160	123	100
2016-17	2011	188	180	185	176	167	178	169	177	185	175	171	194	147	159	101
2017-18	2012	220	177	177	175	180	179	183	169	178	188	132	168	168	139	91
2018-19	2013	201	175	196	174	171	180	177	193	166	173	165	122	157	165	110

Derby Schools' historical enrollment table shows the compounding effect of smaller incoming grade cohorts, where classes of around 120-130 are now replaced with classes of about 90-100.

**Derby Pubic Schools District Enrollment by Grade**

School Year	Birth Year	Births	K	1	2	3	4	5	6	7	8	9	10	11	12	PK
2007-08	2002	147	92	121	133	98	88	117	113	109	133	114	108	108	104	34
2008-09	2003	134	133	101	111	134	107	96	121	115	107	127	103	103	95	36
2009-10	2004	165	136	129	102	112	128	101	98	126	110	108	103	102	85	34
2010-11	2005	153	131	135	128	98	109	130	103	102	116	113	85	93	100	33
2011-12	2006	175	125	125	126	123	98	115	127	105	104	109	96	68	90	42
2012-13	2007	166	132	131	121	120	115	102	128	135	104	101	92	100	71	46
2013-14	2008	151	123	131	127	120	124	109	108	124	133	97	99	88	102	37
2014-15	2009	136	106	123	125	134	108	118	112	105	123	98	98	87	95	35
2015-16	2010	117	92	107	118	120	129	113	116	114	103	102	85	84	82	38
2016-17	2011	134	98	91	106	115	120	127	98	120	109	103	82	88	85	45
2017-18	2012	127	91	99	86	102	111	119	127	104	123	108	101	75	83	41
2018-19	2013	153	83	89	92	90	96	117	117	130	103	84	89	101	73	44



## Enrollment Projections

The cohort-survival methodology, with some modifications, was used to calculate all projections in this section. This is a standard methodology for projecting populations and student enrollments and relies on the recent past as a predictor of the future. It works well for stable populations, including those that are growing or declining at a steady rate.

Persistence ratios were calculated from historic and current enrollments to determine growth or loss in a grade cohort as it progresses through the school system. Persistence ratios of 1.00 mean that the cohort remains the same as it advances from one grade to the next. A persistence ratio of 1.05 means the cohort increases by 5% or a class of 100 gains five additional students the next year. Enrollment data from 2001-02 through 2018-19 and birth data from 1996 to 2013 were used to calculate the birth-K and grade-to-grade persistence ratios shown in the following table.

## Persistence Ratios

Ansonia Kindergarten through 12th Grade Persistence Ratios by School Year 2008-09 through 2018-19														
Year	Birth-K	K-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	Est. of Migration
2007-08	0.9424	1.0000	0.8996	1.0136	1.0326	0.9347	0.9529	0.9486	1.0550	1.1716	0.7360	0.9305	0.9643	-3.5%
2008-09	0.7943	1.0175	0.8675	0.9270	0.9686	0.9684	0.9677	1.0495	1.0394	1.1043	0.7322	0.8261	0.9023	-6.9%
2009-10	0.7804	1.1116	0.8541	1.0493	1.0093	0.9630	1.0054	1.0222	1.0314	1.1659	0.8841	0.9429	1.0526	-3.5%
2010-11	0.8608	1.0704	0.8072	0.9698	1.0094	0.9312	0.9615	0.9730	1.0000	1.0457	0.8415	0.8398	0.8848	-7.6%
2011-12	0.6932	1.0392	0.9108	0.9403	0.9741	0.9488	0.9212	0.9350	1.0111	1.0217	0.7621	0.8406	1.0173	-5.7%
2012-13	0.7154	1.1437	0.8538	0.9948	0.9947	0.9894	0.9853	0.9893	1.0107	0.9451	0.8404	0.8408	1.0000	-4.5%
2013-14	0.7237	1.0966	0.8492	0.9779	0.8705	0.9468	0.9892	1.0199	1.0162	0.9735	0.8547	0.8797	1.0379	-9.1%
2014-15	0.8795	1.1636	0.9119	1.0059	1.0339	1.0833	1.0112	1.0272	1.0293	0.9043	1.0163	0.8980	1.0216	0.6%
2015-16	0.8142	0.9695	0.9010	0.9773	0.9941	1.0055	0.9890	0.9556	1.0106	0.9100	0.9941	0.8556	0.9318	-3.2%
2016-17	0.9574	0.8981	0.9215	0.9653	1.0349	1.0000	0.9620	1.0278	1.0174	0.8953	1.0104	0.8698	0.9938	-2.1%
2017-18	0.8045	0.9833	0.9459	1.0227	1.0719	1.0281	1.0000	1.0056	1.0162	0.7543	0.9825	0.8660	0.9456	1.6%
2018-19	0.8706	1.1073	0.9831	0.9771	1.0000	0.9888	1.0546	0.9822	0.9719	0.8777	0.9242	0.9345	0.9821	-1.3%
Long Term Avg	0.8481	1.0417	0.9044	0.9967	1.0017	0.9770	0.9883	0.9939	1.0112	0.9731	0.8832	0.8931	0.9522	
5-Yr Avg	0.8653	1.0244	0.9327	0.9897	1.0270	1.0211	1.0034	0.9997	1.0091	0.8683	0.9855	0.8848	0.9750	
3-Yr Avg	0.8775	0.9962	0.9502	0.9884	1.0356	1.0056	1.0055	1.0052	1.0019	0.8424	0.9724	0.8901	0.9738	
3-Yr Wgt Avg	0.8631	1.0311	0.9604	0.9904	1.0298	1.0038	1.0210	0.9976	0.9943	0.8395	0.9580	0.9009	0.9719	

Derby Kindergarten through 12th Grade Persistency Ratios by School Year 2008-09 through 2018-19														
Year	Birth-K	K-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	Est. of Migration
2008-09	0.9925	1.0978	0.9174	1.0075	1.0918	1.0909	1.0342	1.0177	0.9817	0.9549	0.9035	0.9537	0.8796	1.8%
2009-10	0.8242	0.9699	1.0099	1.0090	0.9552	0.9439	1.0208	1.0413	0.9565	1.0093	0.8110	0.9903	0.8252	-2.2%
2010-11	0.8562	0.9926	0.9922	0.9608	0.9732	1.0156	1.0198	1.0408	0.9206	1.0273	0.7870	0.9029	0.9804	-1.3%
2011-12	0.7143	0.9542	0.9333	0.9609	1.0000	1.0550	0.9769	1.0194	1.0196	0.9397	0.8496	0.8000	0.9677	-1.7%
2012-13	0.7952	1.0480	0.9680	0.9524	0.9350	1.0408	1.1130	1.0630	0.9905	0.9712	0.8440	1.0417	1.0441	-3.0%
2013-14	0.8146	0.9924	0.9695	0.9917	1.0333	0.9478	1.0588	0.9688	0.9852	0.9327	0.9802	0.9565	1.0200	-1.4%
2014-15	0.7794	1.0000	0.9542	1.0551	0.9000	0.9516	1.0275	0.9722	0.9919	0.7368	1.0103	0.8788	1.0795	-3.4%
2015-16	0.7863	1.0094	0.9593	0.9600	0.9627	1.0463	0.9831	1.0179	0.9810	0.8293	0.8673	0.8571	0.9425	-2.0%
2016-17	0.7313	0.9891	0.9907	0.9746	1.0000	0.9845	0.8673	1.0345	0.9561	1.0000	0.8039	1.0353	1.0119	-1.3%
2017-18	0.7165	1.0102	0.9451	0.9623	0.9652	0.9917	1.0000	1.0612	1.0250	0.9908	0.9806	0.9146	0.9432	-3.2%
2018-19	0.5425	0.9780	0.9293	1.0465	0.9412	1.0541	0.9832	1.0236	0.9904	0.6829	0.8241	1.0000	0.9733	-0.8%
Long Term Avg	0.7776	1.0038	0.9608	0.9892	0.9780	1.0111	1.0077	1.0237	0.9817	0.9159	0.8783	0.9392	0.9698	
5-Yr Avg	0.7112	0.9974	0.9557	0.9997	0.9538	1.0056	0.9722	1.0219	0.9889	0.8480	0.8972	0.9372	0.9901	
3-Yr Avg	0.6635	0.9925	0.9550	0.9945	0.9688	1.0101	0.9501	1.0398	0.9905	0.8913	0.8695	0.9833	0.9761	
3-Yr Wgt Avg	0.6320	0.9906	0.9448	1.0064	0.9590	1.0217	0.9695	1.0380	0.9962	0.8384	0.8729	0.9774	0.9697	

As is evident in both communities, there is a great deal of fluctuation in persistency ratios from year to year. Some unusual ratios for the 2018-19 school year stand out – in Ansonia the K-1<sup>st</sup> and 5<sup>th</sup> – 6<sup>th</sup> persistency ratios were unusually *high*, while in Derby the birth – K and 8<sup>th</sup> – 9<sup>th</sup> ratios were anomalously low. In fact, Derby's birth-K ratio experienced such a significant decline in 18-19 that it resulted in an unprecedented low (0.5425) not just for within Derby but amongst similar communities. The following table provides a sampling of birth-K ratios from other communities in which Milone & MacBroom has recently worked. Without live birth data and/or other public and private school enrollment data, it is difficult to explain the unusually low birth-K ratio in Derby in 2018-19.

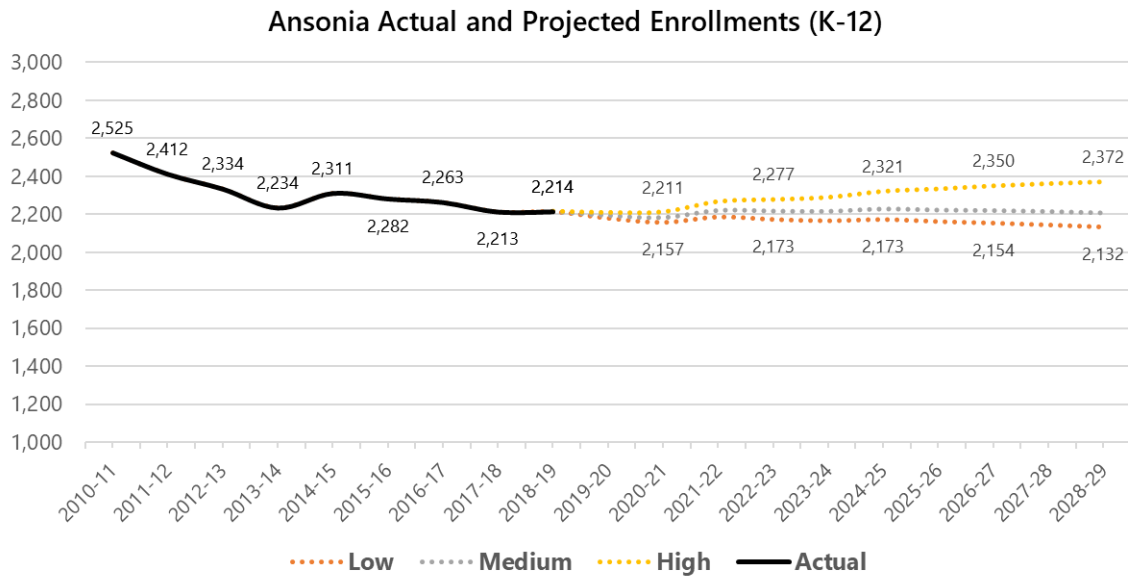
Examples of Birth-K Ratios from Other Communities					
Year	Derby	Hamden	Meriden	Norwalk	Shelton
2008-09	0.9925	0.6557	0.7969	0.6920	0.9594
2009-10	0.8242	0.6977	0.8123	0.7200	0.7896
2010-11	0.8562	0.7211	0.8024	0.7020	0.9083
2011-12	0.7143	0.6611	0.7500	0.7290	0.8296
2012-13	0.7952	0.6519	0.8479	0.7410	0.9266
2013-14	0.8146	0.6513	0.7981	0.7120	0.7849
2014-15	0.7794	0.6525	0.8329	0.7110	0.9022
2015-16	0.7863	0.6192	0.8053	0.7510	1.0031
2016-17	0.7313	0.5915	0.8261	0.6890	1.0417
2017-18	0.7165	0.6201	0.7751	0.7110	0.9967
2018-19	0.5425	0.6261	0.8204	0.7320	1.0233

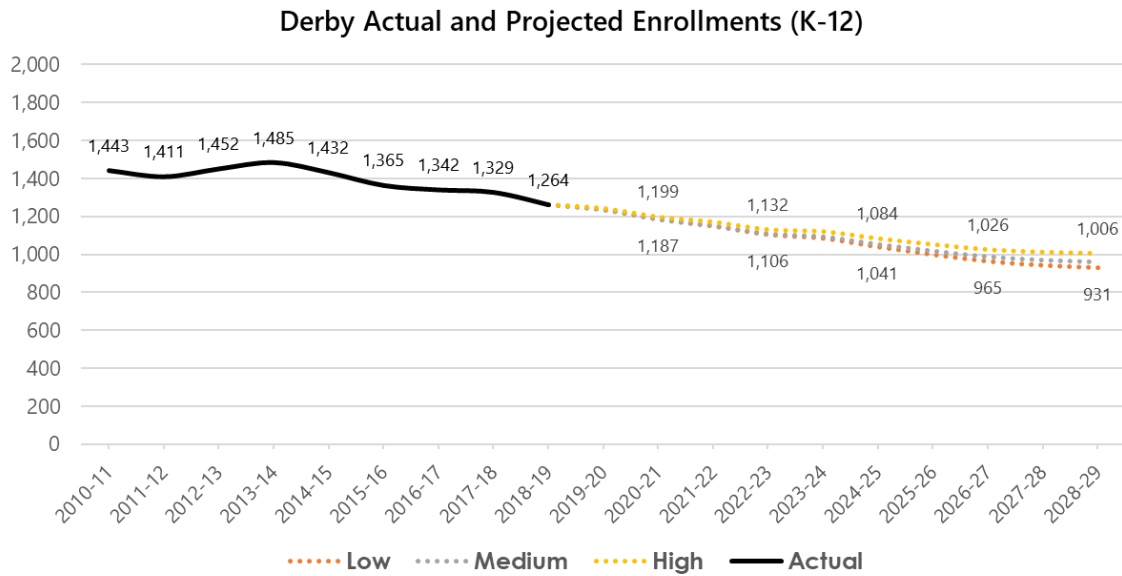
Estimates of migration were also calculated for both districts by comparing the 1st through 4th grade cohorts of one year to the 2nd through 5th grade cohorts of the following year. Gains in enrollments in that grade grouping indicate in-migration, while losses indicate out-migration. For Ansonia, fluctuations

between positive and negative migration estimates coupled with the fluctuations apparent in the persistency ratios indicate a relatively transient student population. For Derby, while the rate changes from year to year, the City has shown more consistent out-migration.

### Projected Enrollments

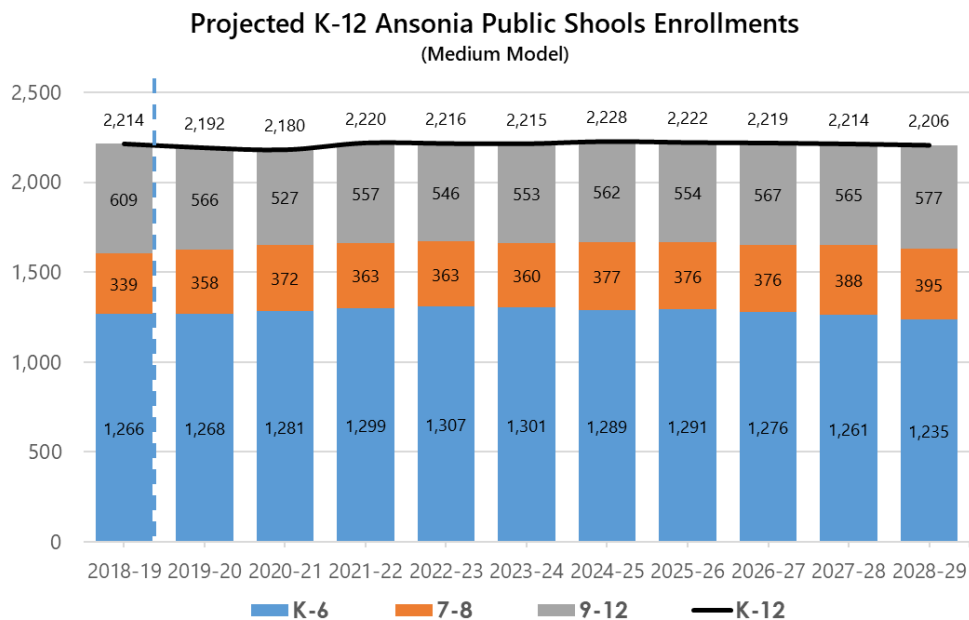
For long-range planning purposes, three projection models were prepared based on low, medium and high growth assumptions for each school district. The medium growth models assume current trends in housing, population and enrollment persist, while the low and high growth models assume negative or positive trends in those factors, respectively. These models provide a range of anticipated enrollments to plan against; however, the medium projection model best fits the demographic and housing analysis and data in both Ansonia and Derby.



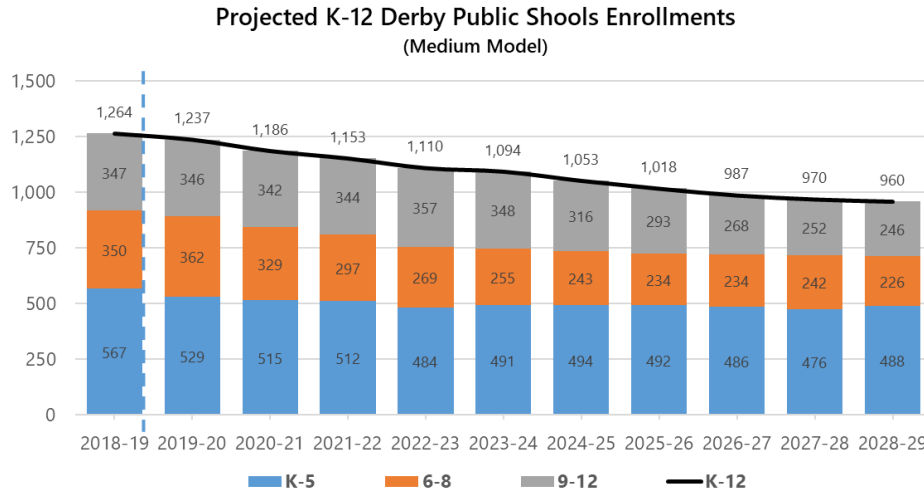


As shown in the following chart for Ansonia Public Schools, the medium projection model projects a very stable enrollment over the next decade. Enrollment at the elementary level (K-6) is projected to increase by almost 3% over the next 5 years, though ultimately decrease by 2% over the next 10 years. The middle school (7-8) is projected to steadily increase by 16% over the next 10 years. The high school (9-12) is projected to decrease by 9% over the next 5 years, and 5% overall over the next 10 years.

As shown for Derby Public Schools, the medium projection model projects a 24% decrease for the district over the next 10 years. This includes a 13% decrease at the elementary level (K-5) over the next 5 years, and 14% decrease over the next 10 years. The middle school (6-8) is projected to decrease by 27%



over the next 5 years, and a 35% decrease over the next 10 years. The high school (9-12) is projected to remain relatively stable over the next 5 years, but decrease by 29% over the next 10 years. Note that elementary and middle school grade clusters differ between Ansonia (K-6, 7-8) and Derby (K-5, 6-8) when comparing the two projections for each district.



The grade-by-grade medium growth model enrollment projections are shown in the following for Ansonia Public Schools.

School Year	Birth Year	Births	K	1	2	3	4	5	6	7	8	9	10	11	12	PK	K-6	7-8	9-12	K-12	PK-12
2018-19	2013	201	175	196	174	171	180	177	193	166	173	165	122	157	165	100	1,266	339	609	2,214	2,314
2019-20	2014	220	190	180	188	172	176	181	181	193	165	145	158	110	153	100	1,268	358	566	2,192	2,292
2020-21	2015	217	187	196	173	186	177	177	184	180	191	139	139	142	107	100	1,281	372	527	2,180	2,280
2021-22	2016	227	196	193	188	172	192	178	180	184	179	161	133	125	138	100	1,299	363	557	2,220	2,320
2022-23	2017	211	182	202	185	186	177	193	182	180	183	150	154	120	122	100	1,307	363	546	2,216	2,316
2023-24	2018	197	170	188	194	184	192	177	197	181	179	154	144	139	116	100	1,301	360	553	2,215	2,315
2024-25	2019	207	178	175	180	192	189	192	181	196	180	150	147	130	135	100	1,289	377	562	2,228	2,328
2025-26	2020	204	176	184	168	179	198	190	197	181	195	151	144	133	126	100	1,291	376	554	2,222	2,322
2026-27	2021	202	174	182	177	167	184	199	194	196	180	164	145	130	129	100	1,276	376	567	2,219	2,319
2027-28	2022	200	172	180	175	175	172	185	203	193	195	151	157	131	126	100	1,261	388	565	2,214	2,314
2028-29	2023	198	170	178	173	173	180	172	188	202	192	164	144	141	127	100	1,235	395	577	2,206	2,306

School by school projections were prepared for the Ansonia's two elementary schools; however, due to the ad hoc placement of students, it is difficult to accurately project enrollments at the individual school level for these facilities.

School	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
Mead	566	597	583	565	600	619	636	659	680	696	710	702	700	691	683	669
Prendergast	661	680	688	665	638	644	632	623	620	611	592	587	591	584	578	566
<b>TOTAL</b>	<b>1,227</b>	<b>1,277</b>	<b>1,271</b>	<b>1,230</b>	<b>1,238</b>	<b>1,263</b>	<b>1,268</b>	<b>1,281</b>	<b>1,299</b>	<b>1,307</b>	<b>1,301</b>	<b>1,289</b>	<b>1,291</b>	<b>1,276</b>	<b>1,261</b>	<b>1,235</b>

The grade-by-grade medium growth model enrollment projections are also shown in the following table for Derby Public Schools.

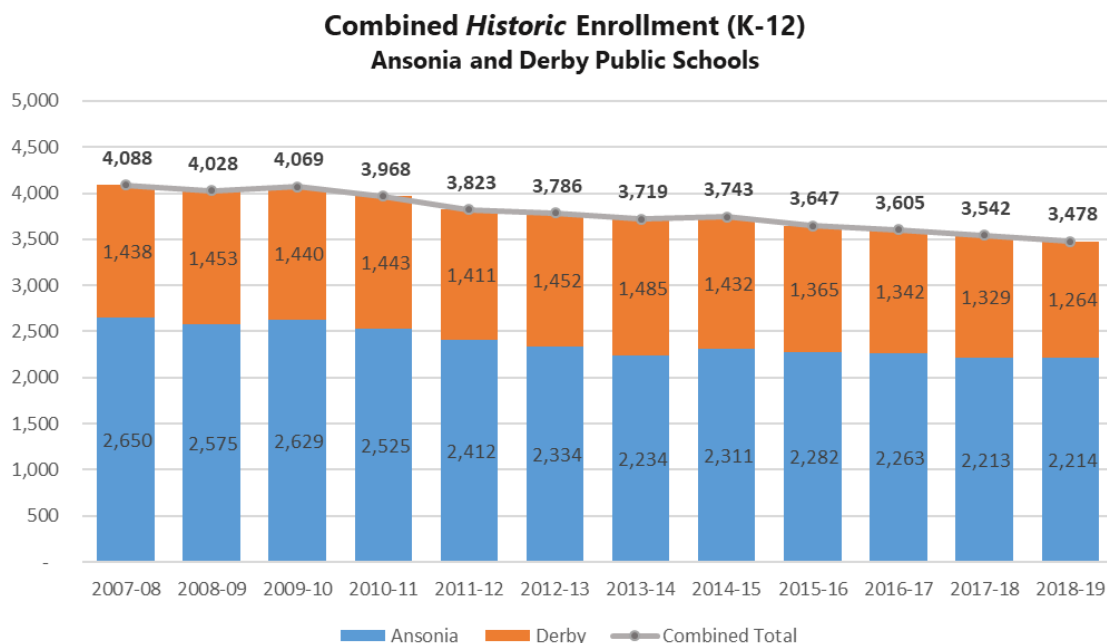
School Year	Birth Year	Births	K	1	2	3	4	5	6	7	8	9	10	11	12	PK	K-5	6-8	9-12	K-12	PK-12
2018-19	2013	153	83	89	92	90	96	117	117	130	103	84	89	101	73	44	567	350	347	1,264	1,308
2019-20	2014	124	86	83	85	91	87	98	112	121	128	90	73	85	98	42	529	362	346	1,237	1,279
2020-21	2015	129	90	86	79	84	88	89	94	116	120	112	78	69	82	42	515	329	342	1,186	1,228
2021-22	2016	133	92	89	82	78	81	89	85	97	115	105	98	75	67	42	512	297	344	1,153	1,195
2022-23	2017	97	67	92	85	81	75	83	86	88	96	100	91	93	72	42	484	269	357	1,110	1,152
2023-24	2018	140	97	67	88	84	78	77	79	89	87	84	87	87	90	42	491	255	348	1,094	1,136
2024-25	2019	123	85	97	64	87	81	80	74	82	88	76	73	83	84	42	494	243	316	1,053	1,095
2025-26	2020	121	84	85	93	63	84	83	76	76	81	77	66	69	80	42	492	234	293	1,018	1,060
2026-27	2021	120	83	84	81	91	61	85	79	79	75	71	67	63	67	42	486	234	268	987	1,029
2027-28	2022	118	82	83	80	80	88	62	82	82	78	66	62	63	61	42	476	242	252	970	1,012
2028-29	2023	117	81	82	79	79	77	90	60	85	81	68	57	59	61	42	488	226	246	960	1,002

School by school projections were prepared for Derby's two elementary schools. Bradley is projected to experience steeper decline in enrollment over the next five years than Irving.

School	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
Bradley	376	365	347	326	279	252	226	223	219	202	209	211	210	208	204	208
Irving	378	349	328	329	328	313	304	292	294	282	283	283	282	278	272	280
TOTAL	754	714	675	655	607	565	529	515	512	484	491	494	492	486	476	488

### Combined Enrollment History and Projections

Combined enrollment totals are presented to assist TRSSC in its consideration of school district alternatives for the future. The graph below shows combined historic enrollment (K-12) from Ansonia and Derby. There has been a 15% decrease in total K-12 enrollment since 2007-08.



The next table shows the combined projected enrollment (K-12) by grade for Ansonia and Derby out to the year 2028-29. Over this 10-year period the total enrollment is projected to decrease by an additional 8%.

- Grades K-5 are projected to decrease 3% over the next 5 years and about 6% over the next 10 years.
- Grades 6-8 are projected to decrease 8% over the next 5 years and then remain stable around 800 students through 10-year projection horizon.
- Grades 9-12 are projected to decrease 6% over the next 5 years, while decreasing 14% out ten years.

**Combined Projected Enrollment: Ansonia and Derby Public Schools**

School Year	Birth Year	Births	K	1	2	3	4	5	6	7	8	9	10	11	12	PK	K-5	6-8	9-12	K-12	PK-12
2018-19	2013	354	258	285	266	261	276	294	310	296	276	249	211	258	238	144	1,640	882	956	3,478	3,622
2019-20	2014	344	276	263	273	263	263	279	293	314	294	235	231	195	250	142	1,617	900	911	3,428	3,570
2020-21	2015	346	277	282	252	270	265	265	278	296	311	251	218	212	189	142	1,612	886	869	3,367	3,509
2021-22	2016	360	288	282	270	250	273	268	265	281	294	265	230	200	206	142	1,631	840	901	3,373	3,515
2022-23	2017	308	249	294	271	267	252	275	268	268	279	251	245	213	194	142	1,609	814	902	3,326	3,468
2023-24	2018	337	267	255	282	268	270	254	276	270	266	238	231	225	206	142	1,596	812	900	3,309	3,451
2024-25	2019	329	263	272	245	279	271	272	255	278	268	226	220	213	219	142	1,602	801	878	3,281	3,423
2025-26	2020	325	260	269	261	242	282	273	273	257	276	228	210	202	207	142	1,587	806	847	3,239	3,381
2026-27	2021	322	257	266	258	258	245	284	273	275	255	235	212	193	196	142	1,568	803	835	3,207	3,349
2027-28	2022	318	254	263	255	255	260	247	285	276	273	217	219	194	187	142	1,534	833	816	3,183	3,325
2028-29	2023	314	251	259	252	252	257	262	248	287	274	232	202	200	188	142	1,535	809	822	3,166	3,308

Finally, to provide greater context for the TRSSC, recent enrollment data from current regional districts across Connecticut is provided below. Connecticut's regional districts vary considerably in their make-up, from the grade groupings that are regionalized to their size. However, a combined Ansonia-Derby K-12 district would be large relative to the other CT regional K-12 districts at 3,478 students in 2018-19. However, Ansonia and Derby's combined 7-12 and 9-12 enrollment totals are in line with other regional school districts consisting of those grades at 1,528 students and 956 students respectively.

## V. Finance

### Key Points

- By shifting to a PK-12 regional district with 3 elementary schools, Ansonia would spend about \$24,760,000 less in capital costs and Derby would spend about \$30,570,000 less in capital costs than the status quo. The table below summarizes the *additional* capital funds that each city would need to contribute, after each city has contributed the facilities listed in the prior section and sold unused facilities:

	Status Quo	9 – 12 Regional	6 –12 Regional	PK – 12 Regional (4 elem.)	PK-12 Regional (3 elem.)
Ansonia	\$28,840,000	\$17,960,000 (\$10,880,000 less than status quo)	\$6,810,000 (\$22,040,000 less than status quo )	\$12,780,000 (\$16,060,000 less than status quo )	\$4,090,000 (\$24,760,000 less than status quo )
Derby	\$33,250,000	\$27,810,000 (\$5,440,000 less than status quo )	\$15,520,000 (\$17,720,000 less than status quo )	\$7,630,000 (\$25,620,000 less than status quo )	\$2,680,000 (\$30,570,000 less than status quo )

- In operating costs, a 9-12 regional district would save \$1,440,000 annually, a 6-12 regional district would save \$2,020,000 annually, a PK-12 (4 elementary) district would save about \$2,490,000 annually, and a PK-12 (3 elementary) district would save about \$2,930,000 annually. The majority of operational savings come from the assumptions that a regional district would merge central offices and that all teachers would shift to Derby's pay scale and health/dental.
- The table below provides a summary of combined estimated operating savings, relative to the status quo, organized by scenario and decision-point.

	Status Quo	9 – 12 Regional	6 –12 Regional	PK – 12 Regional (4 elem.)	PK-12 Regional (3 elem.)
Number of Central Offices	-	\$(720,000)	\$(720,000)	\$(720,000)	\$(720,000)
Salaries, benefits, and collective bargaining agreements	-	\$(200,000)	\$(300,000)	\$(550,000)	\$(550,000)
School-based Administrators	-	\$(270,000)	\$(380,000)	\$(380,000)	\$(510,000)
Teacher staffing changes	-	-	-	-	-
Special education	-	\$(40,000)	\$(90,000)	\$(190,000)	\$(190,000)
Utilities	-	\$(130,000)	\$(380,000)	\$(380,000)	\$(700,000)
Transportation	-	-	-	-	-
Economies of Scale	-	\$(80,000)	\$(150,000)	\$(270,000)	\$(270,000)
Overall	-	\$ (1,440,000)	\$ (2,020,000)	\$ (2,490,000)	\$ (2,930,000)



- Most operating savings from regionalization would go to Derby. This is because Derby currently has a higher per-pupil spending than Ansonia, but in a regional district, they would contribute the same amount per-pupil. The table below provides a summary of operating costs for all grades, based on 2018-2019 spending, by city and scenario:

	Status Quo	9-12 Regional	6-12 Regional	PK-12 Regional (4 elem.)	PK-12 Regional (3 elem.)
Ansonia	\$37,890,000	\$37,260,000 <i>(\$620,000 saved)</i>	\$37,160,000 <i>(\$730,000 saved)</i>	\$37,390,000 <i>(\$500,000 saved)</i>	\$37,110,000 <i>(\$780,000 saved)</i>
Derby	\$23,040,000	\$22,230,000 <i>(\$810,000 saved)</i>	\$21,620,000 <i>(\$1,420,000 saved)</i>	\$21,050,000 <i>(\$1,990,000 saved)</i>	\$20,890,000 <i>(\$2,150,000 saved)</i>

## Introduction

The potential for cost savings is one of the primary questions underlying regionalization. This section of the report begins with an overview of historical revenue and expenditures in Ansonia and Derby, and then reviews nine spending sub-categories, as follows:

1. Capital Spending
2. Central Office
3. Salaries, Benefits, and Collective Bargaining Agreements
4. School-Based Administrators
5. Teachers
6. Special Education
7. Utilities
8. Transportation
9. Economies of Scale

Finally, this section of the report concludes with 5-year budget projections for regionalized scenarios, using the enrollment projections from the earlier section of the report.

As in the academic section, each subsection examines research, the current cost in each district, implications for regionalization, and a score designating the expected level of impact.

## Historical Revenue and Expenditures in Ansonia and Derby

### Research

Regionalization conversations often start with the goal of reducing “expenditures through increasing fiscal efficiency by eliminating duplication of services at both the central office and in schools” (Rodriguez 2). Substantial research has focused on this very question, and while past examples often show that regionalization leads to some savings, they are not always as significant as officials hoped. Some even have opposite conclusions. Below are a few studies and their general findings:

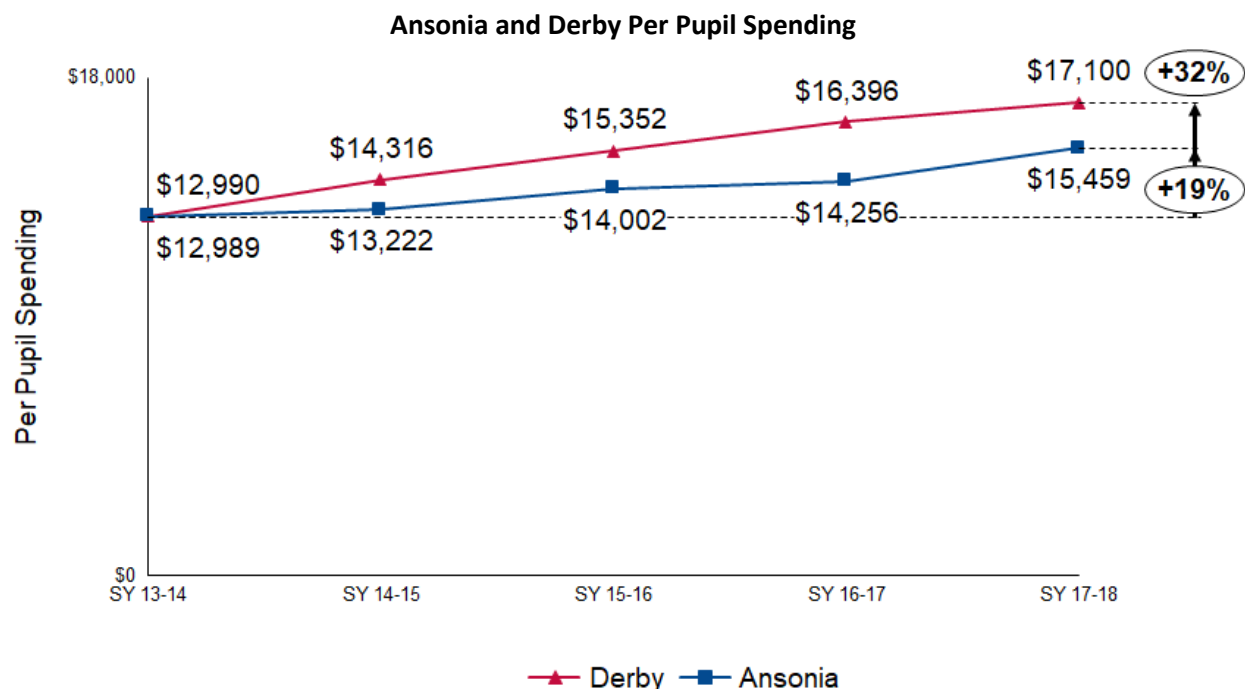
- “School consolidation produces less fiscal benefit and greater fiscal cost than it promises. While some costs, particularly administrative costs may decline in the short run, they are replaced by other expenditures, especially transportation and more specialized staff” (Bard et. al 43).
- “A 2007 study published in Education Finance and Policy concludes annual operating spending per pupil declines by more than 60 percent when two 300-pupil districts merge and by nearly

half when two 1,500-pupil districts merge. The savings are particularly large for instruction and administration, but the study finds no savings for student transportation. It also reveals, however, consolidation involves additional transitional operating costs not associated with enrollment” (Weldon 3)

- “The study concludes overall operating spending and operating spending subcategories exhibit a large upward shift in per pupil costs at the time of consolidation, followed by a gradual decline in per pupil costs in the following years. These costs appear to disappear after about 10 years” (Weldon 3).
- “While consolidation reduces costs in the short term, these reductions are replaced in the long term with new expenditures, such as expanded administrative, supervisory and specialized staff” (Norm Durflinger and Lynne Haeffele).

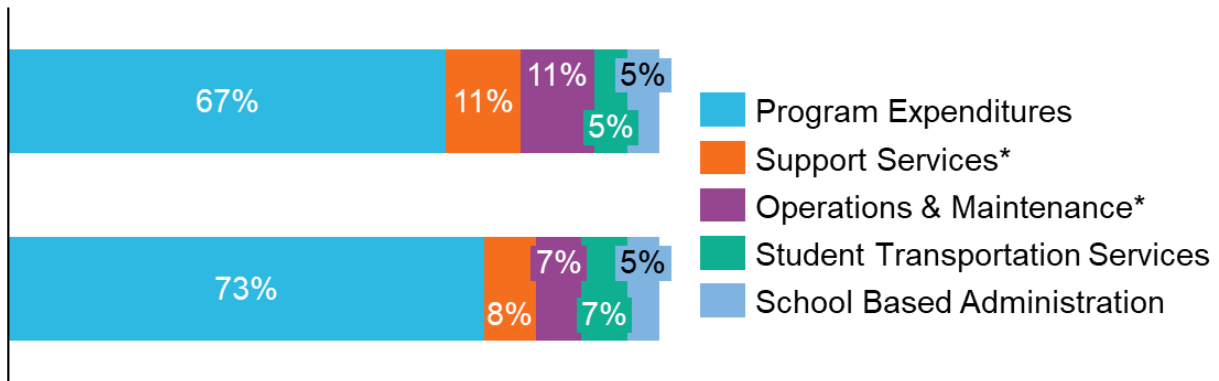
### Current State in Ansonia and Derby

Back in the 2013-2014 school year, Ansonia and Derby spent virtually the same amount of money per pupil (\$12,990). However, over the past five years, Derby’s spending has outpaced Ansonia’s spending, growing 32% over the past five years compared to Ansonia’s 19%.

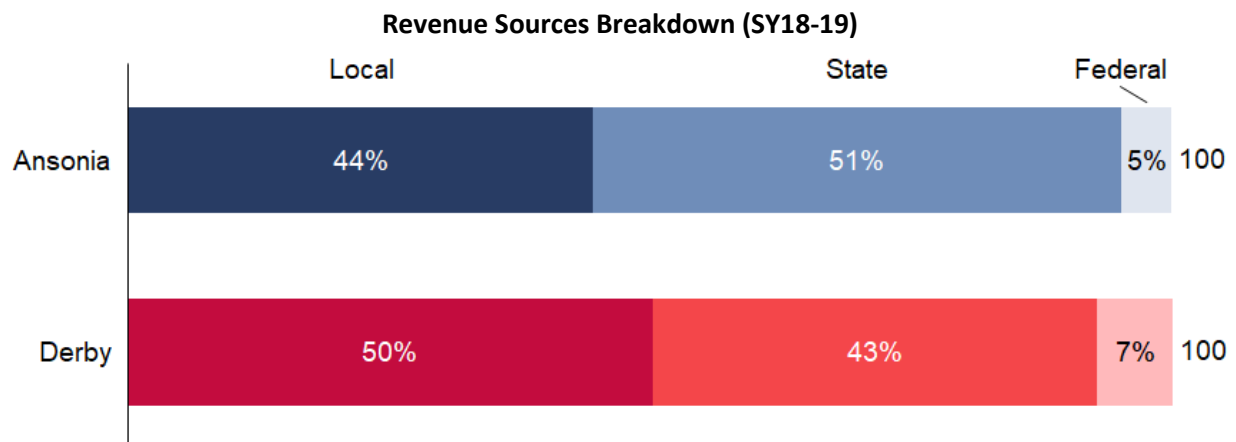


Of this spending, the majority of spending in each went to program expenditures, as shown below:

**Per Pupil Expenditures Breakdown (SY17-18)**



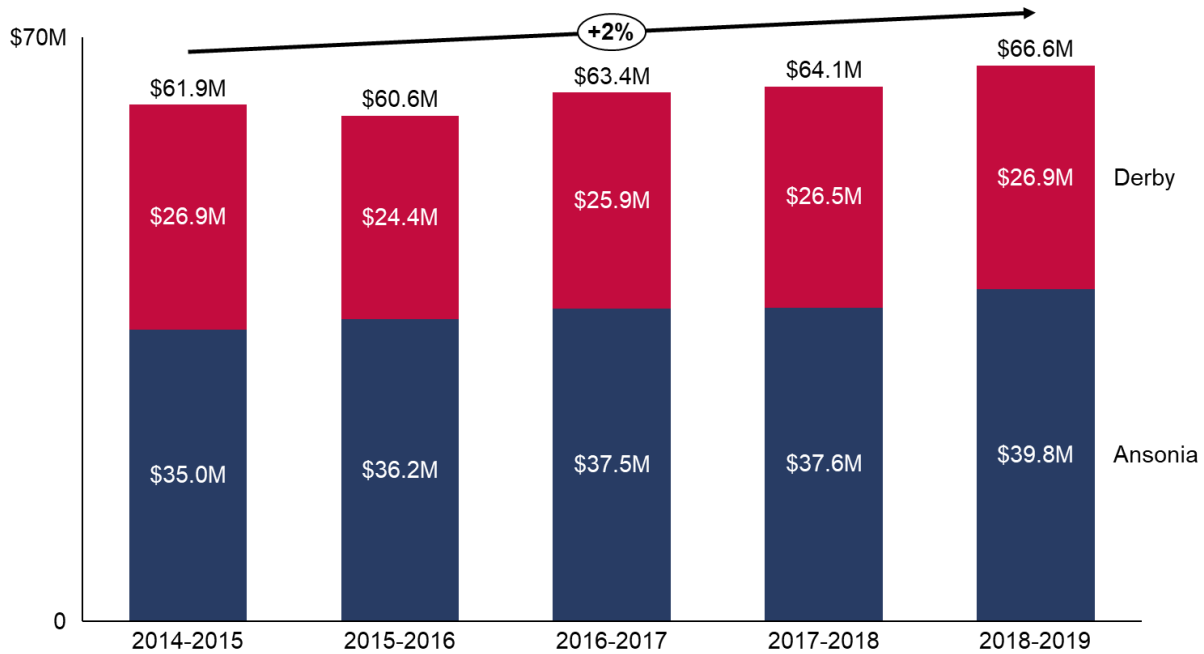
Derby receives greater local funding than Ansonia, as it has a higher mill rate (41.87 in Derby in FY20 compared to 37.80 in Ansonia) (“FY 2020 Mill rates”). In part, this leads to Ansonia relying more on state aid, as shown below:



### ***Implications for Regionalization***

Combined, the two districts’ budgets increase have increased about a compounded amount of 8%, or 2% annually, and reached about \$67 million in the 2018-2019 school year.

Combined Expenditures, SY14-15 through SY18-19



## Spending Sub-Categories

### 1. Capital Spending

#### Research

Some studies have shown mixed effects of regionalization on capital costs. One by Duncombe and Yinger says that capital costs are lowered “only when consolidating relatively small districts; capital costs increase when consolidating districts of 1500 pupils or more” (Qtd in Illinois Public School District Consolidation: A Tiered Approach). A separate study, however, found that “consolidation leads to increased capital spending, which can lead to some mitigation of cost savings” (Qtd in A Review of the Research on District and School Consolidation 15).

#### Current State

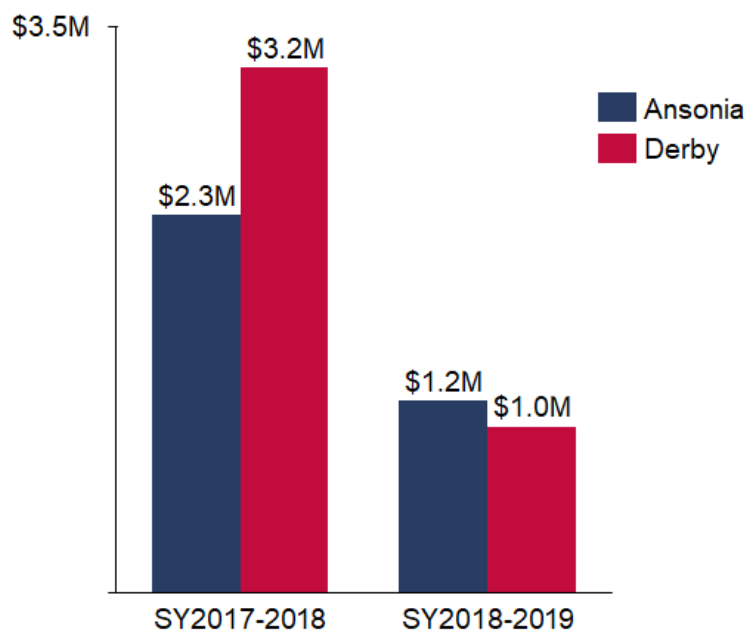
As noted in the facilities section, the appraised value of each building is listed below:

School	Current Appraised Value (Buildings & Land)
Mead (A)	\$10,889,100
Prendergast (A)	\$8,699,300
Bradley (D)	\$4,074,700
Irving (D)	\$6,394,380
Ansonia Middle (A)	\$11,832,800
Derby Middle (D)	\$25,810,100
Ansonia High School (A)	\$32,863,000
Derby High School (D)	See Derby MS

These values are used in the following section to calculate the required capital contribution of each city.

In addition, both districts had significant capital construction spending in the 2017-2018 school year, and payments dramatically decreased in the 2018-2019 school year. See below:

#### Expenditures for Debt Service and Selected Non-Debt Service Capital Construction



The authors anticipate future capital costs will mirror the 2018-2019 costs, although the proposed construction of a new Ansonia Middle School would cause an increase in costs.

### **Implications for Regionalization**

Connecticut state statute (Sec. 10-43) says that “the capital contribution of each participating town shall be in the same proportion...as the number of pupils in average daily membership of such town.” The authors view two clear options. The less conventional option, considered in Norfolk and Colebrook, would be for both cities to lease buildings to the regional school district. In this case, neither city would contribute any capital to the regional school district. The more conventional option would be to calculate facilities contribution by using building appraisals and renovation estimates, and distribute costs on based on enrollment. The following tables describe this latter option.

The capital contribution of each town would follow the ratios of 2018-2019 enrollment, as follows:

	9 – 12 Regional	6 –12 Regional	PK – 12 Regional (4 elem.)	PK-12 Regional (3 elem.)
Ansonia	65%	60%	64%	64%
Derby	35%	40%	36%	36%

Based on these ratios, appraisals, and renovations required for each facility, each city would be required to contribute the following capital to a regional district:

	9 – 12 Regional	6 –12 Regional	PK – 12 Regional (4 elem.)	PK-12 Regional (3 elem.)
Ansonia	\$27,030,000	\$42,360,000	\$77,060,000	\$68,370,000
Derby	\$14,280,000	\$27,870,000	\$43,910,000	\$38,960,000

In each scenario, the cities would already be contributing this amount of capital (in the form of facilities):

	9 – 12 Regional	6 –12 Regional	PK – 12 Regional (4 elem.)	PK-12 Regional (3 elem.)
Ansonia	\$32,860,000	\$32,860,000	\$52,450,000	\$52,450,000
Derby	-	\$25,810,000	\$36,280,000	\$29,880,000

Therefore, each city would need to contribute the following *additional* capital in each scenario:

	9 – 12 Regional	6 –12 Regional	PK – 12 Regional (4 elem.)	PK-12 Regional (3 elem.)
Ansonia	\$(5,830,000)*	\$9,490,000	\$24,610,000	\$15,920,000
Derby	\$14,280,000	\$2,060,000	\$7,630,000	\$9,070,000

\*Parentheses indicate funding owed

In 6-12 regionalization and PK-12 regionalization, Ansonia could sell for approximately \$11,830,000, its appraisal. Similarly, in PK-12 regionalization (3 schools), Derby could sell Irving for approximately

\$6,390,000, its appraisal. The authors assume Derby High School cannot be sold, as the high school shares land with Derby Middle School, which would be used in all scenarios.

Assuming both cities sell the unused buildings and put the funds towards the regional district, each city should expect to spend the following *additional* capital:

	Status Quo	9 – 12 Regional	6 – 12 Regional	PK – 12 Regional (4 elem.)	PK-12 Regional (3 elem.)
Ansonia	\$28,840,000	\$17,960,000 ( <i>\$10,880,000 less than status quo</i> )	\$6,810,000 ( <i>\$22,040,000 less than status quo</i> )	\$12,780,000 ( <i>\$16,060,000 less than status quo</i> )	\$4,090,000 ( <i>\$24,760,000 less than status quo</i> )
Derby	\$33,250,000	\$27,810,000 ( <i>\$5,440,000 less than status quo</i> )	\$15,520,000 ( <i>\$17,720,000 less than status quo</i> )	\$7,630,000 ( <i>\$25,620,000 less than status quo</i> )	\$2,680,000 ( <i>\$30,570,000 less than status quo</i> )

*Note:* Estimates are after facilities contributions, renovations, and unused buildings/land sold using current appraisal figures, but do *not* include existing debt service.

To complete this capital transfer, the cities would first need to contribute the corresponding funds to the regional school district. Then, the regional school district would purchase the facilities from the cities for the appraised amount.

Finally, note that Sec. 10-51 of Connecticut state statute allows for alternate arrangements to cover the cost of capital. The TRSSC may choose to consider split costs in a different manner to address the needs of both cities if regionalization is advisable.

## Score

Capital expenditures are significantly lower in all regional scenarios. The status quo has the greatest capital expense (\$62,090,000 combined) and PK-12 regionalization with three elementary schools has the lowest capital expense (\$6,770,000 combined).

## 2. Central Office

### Research

One of the most cited cost-saving opportunities in regionalization is a shared central office. Since education takes place in schools, communities often will avoid cuts at schools and lean towards reducing administrative central costs when possible. Indeed, while there may always be opportunities to reduce positions centrally, some responsibilities are best done centrally to avoid redundancy. Moreover, since district-wide costs typically are a small fraction of school-based costs, savings are often limited. To provide two such examples:

- A 1991 national study by Streifel did conclude that, out of six expenditure categories (Administration, Instruction, Transportation, Operations and Maintenance, Total Costs, and Capital Projects), “only Administration indicated [statistically] significant savings as a result of

consolidation, but that “in the overall budget, [administration] may be less than five percent of the budget and may not impact the overall expenditure rate.” (Streifel et. al 15)

- In 1999, a report from the New Jersey Assembly Task Force on School District Regionalization concluded that, “Sharing administrative services doesn’t necessarily cut costs, because as personnel begin to take on region-wide responsibilities, it often becomes necessary to hire more staff to support them”” (Qtd in Rodriguez 4).

### **Current State in Ansonia and Derby**

Both Ansonia and Derby have similar central office structures, though they differ in size and total cost. Note that some staff are considered “district-wide” but are also included here.

The Ansonia administration consists of about 19 FTE, and costs about \$1,600,000 in the 2018-2019 school year. By comparison, the Derby central office consists of about 15 FTE, and cost about \$1,200,000 in the 2018-2019 school year. The table below shows the central office roles across both districts, and where overlaps exist:

Role	Ansonia	Derby
Superintendent	✓	✓
Assistant Superintendent	✓	
Director of Curriculum, Instruction, and Assessments		✓
PK/Early Childhood	✓	✓
Director of Special Services (SPED)	✓	✓
ELA Consultant	✓	
Math Consultant	✓	
School Business Administrator/Business Manager	✓	✓
Assistant Business Manager		✓
Facilities/Maintenance Manager	✓	✓
Grants Manager/Community Liaison	✓	
Food Services Director	✓	✓
Assistant Cafeteria Manager	✓	
Technology Director	✓	✓
IT Technology Staff		✓
Data Analyst		✓
Human Resource Director		✓



Accounts Payable		✓
Clerical Staff	✓	✓

### *Implications for Regionalization*

If the two districts regionalize, they would have to decide whether to have one, two, or three central offices. The approximate cost for each is below:

Number of Central Offices	Approximate Cost
One	\$2,020,000
Two (Status Quo)	\$2,740,000
Three	\$3,320,000

If the districts chose to merge central offices, one potential central office configuration would cost about \$2,020,000 annually, or would save about \$720,000 combined. This office would consist of 26 FTE and include:

- Superintendent
- Assistant Superintendent
- Early Childhood
- Special Education
- ELA Specialist
- Math Specialist
- Business Manager
- Assistant Business Manager
- Grants Manager
- Human Resources
- IT Director
- Data Analyst
- Clerical (5)
- Executive Assistant
- Facilities Director
- Food Services Director
- Cafeteria Manager
- Special Education Secretary
- Payroll
- Other Administrators (3)

Note that this sample merged central office eliminates duplicate superintendent and director roles that exist in both central offices. It also merges the Assistant Superintendent and Director of Curriculum, Instruction, and Assessments roles into one Assistant Superintendent position.

At the other extreme, the TRSSC could establish a plan that includes a new, third central office for the regional district while preserving the existing central offices. Combined with the two existing central offices, this would cost about \$3,320,000, or an additional \$580,000 more than current central office

expenses. These costs would primarily be driven by salaries for a third Superintendent, Assistant Superintendent, Business Manager, Human Resources Director, Special Education Director, and Early Childhood Director.

If the two districts do regionalize, the authors believe that the cities should merge to one central office to save on cost and ensure a cohesive educational experience for students PK-12. Therefore, all tables list one central office under regional scenarios.

In the short term, there would likely be transitional costs – both financially (e.g. severance, unemployment, pension, etc.) and time (e.g. new staff learning new schools/cultures). For any unionized employees, the current districts would need to collectively bargain these costs, because according to legal advice presented in the Norfolk and Colebrook report, "The NLRB has consistently determined that the effects bargaining required includes bargaining over severance pay, vacation pay, seniority, pensions, and other areas of importance and relevance to the employees" (Proposed Regionalization Plan).

### Score

No change for status quo. Significant savings (about \$720,000) for all regional scenarios, if the districts choose to merge into one central office. Note that the one-time construction costs of improving the Ansonia central office (\$770,000, see Facilities section) are excluded here.

	Status Quo	9 – 12 Regional	6 –12 Regional	PK – 12 Regional (4 elem.)	PK-12 Regional (3 elem.)
Number of Central Offices	-	\$(720,000)	\$(720,000)	\$(720,000)	\$(720,000)

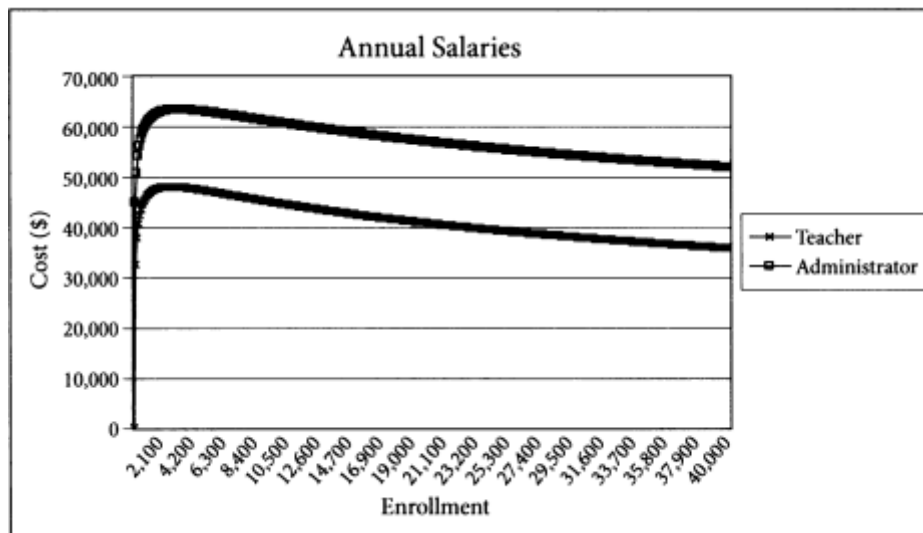
## 3. Salaries, Benefits, and Collective Bargaining

### Research

In all school districts, most costs originate in school-based personnel: namely, teachers and administrators. Both teacher and administrator costs are primarily driven by collective bargaining agreements, which are negotiated between the school district and the teachers' union. Note that class size limits are also set within the collective bargaining agreement.

Research has found that regionalization can increase the costs of salaries and benefits, and can outweigh savings in other areas. Candy Armstrong, superintendent of a consolidated district in Oregon, said in an interview, "Saving in administrative and central-office costs [after the consolidation] were washed out by the need to equalize wages, which meant bringing the salaries of the lower paid Chenowith staff and faculty up to the level of the Dalles employees" (Graves). Similarly, in 2004, a study of school districts in Marin County California said, "Studies have shown that districts cannot count on consolidation to save money. While there were often some minor reductions in staff, overall expenses actually increased owing to required "averaging up" of both administrative and teacher salaries" (Is the Cost Too High 3).

A study from 2009, by Zimmer et al, found that salaries for teachers and administrators increased in districts until they reached about 4,000 students. See the chart below:



The authors argue that this increase in salaries result from labor unions having enough market power to force “districts to offer the wage rates of the most generous of the consolidating districts,” but that when districts grow large enough, they can exert market power and dictate their own (lower) wages in the region (Qtd in *A Review of Research on District and School Consolidation* 15).

### Current State in Ansonia and Derby

#### Teachers’ Union Salaries

In the 2018-2019 school year, Ansonia spent \$11,600,000 on teachers, social workers, psychologists, and others under the teachers’ union contract, whereas Derby spent \$8,400,000 on these staff. Focus groups frequently cited the higher pay in Derby, and at most steps and lanes, the pay scale in Derby is higher. See the two salary scales below, as outlined in their collective bargaining agreements:

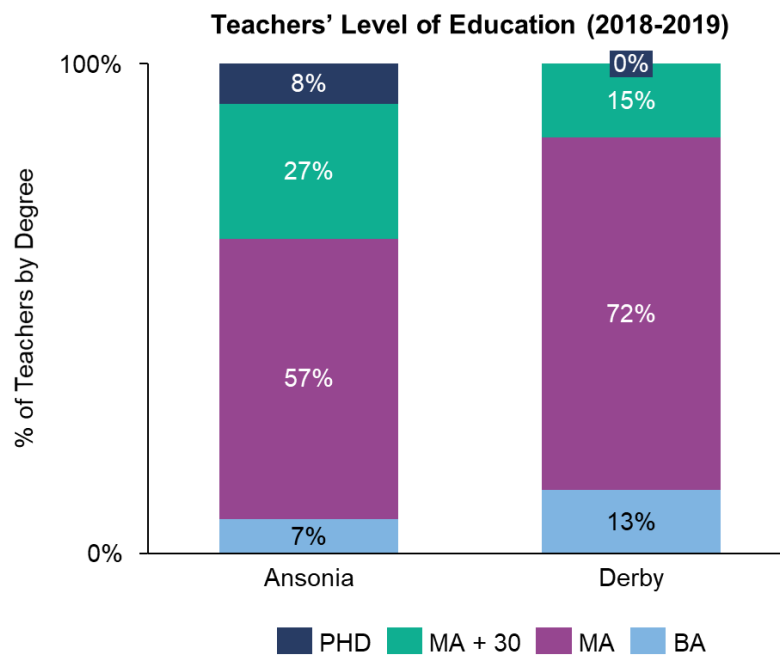
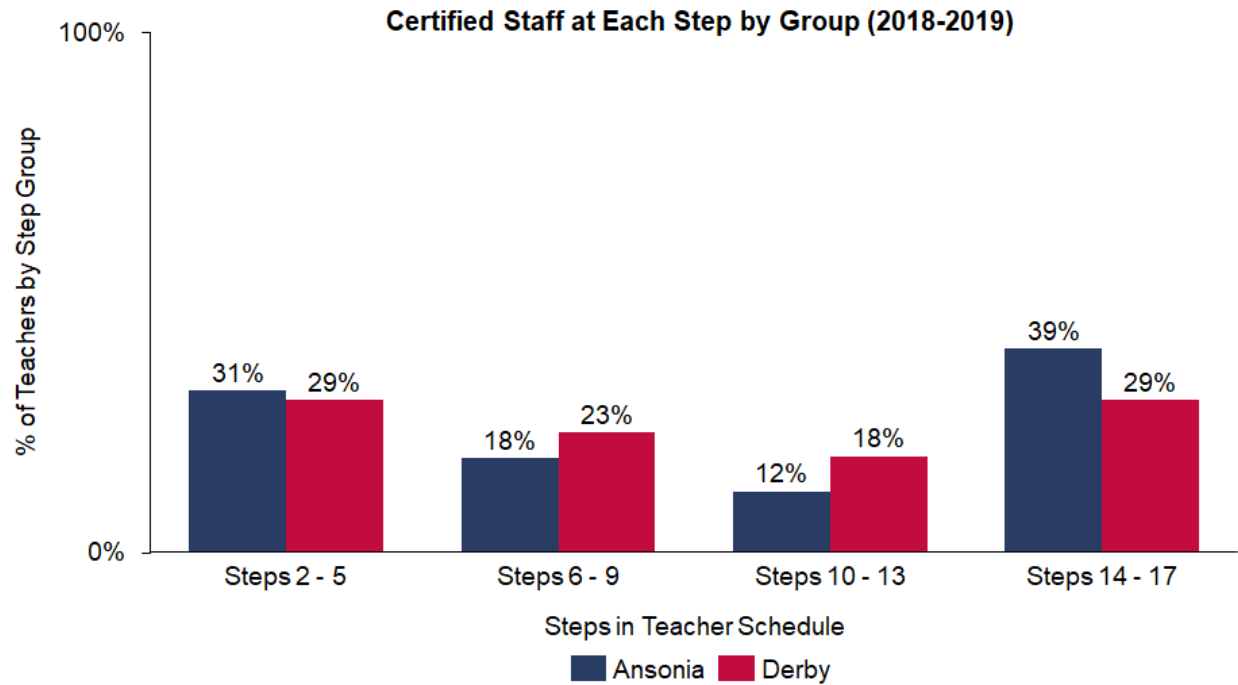
**Ansonia and Derby Salary Scales (SY2018-2019)**

Ansonia				
Step	1 (BA)	2 (MA)	3 (MA+30)	4 (PHD)
2	\$42,976	\$49,457	\$55,939	\$ 63,128
3	\$44,305	\$51,093	\$57,883	\$ 64,675
4	\$45,773	\$52,561	\$59,349	\$ 66,142
5	\$47,239	\$54,027	\$60,814	\$ 67,609
6	\$48,869	\$55,656	\$62,444	\$68,956
7	\$50,496	\$57,284	\$64,074	\$70,304
8	\$52,126	\$58,917	\$65,706	\$72,214
9	\$53,755	\$60,549	\$67,338	\$74,123
10	\$55,248	\$62,044	\$68,833	\$75,618
11	\$56,741	\$63,536	\$70,325	\$77,112
12	\$59,548	\$65,886	\$72,225	\$78,559

13	\$62,353	\$68,238	\$74,123	\$80,008
14	\$64,533	\$70,514	\$76,498	\$82,478
15	\$66,712	\$72,789	\$78,870	\$84,947
16	\$70,288	\$76,587	\$82,892	\$89,192
17	\$76,848	\$83,633	\$90,424	\$97,210

Derby							
Step	BA	BA + 15	MA	MA +15	6th Yr	6th Yr + 15	PHD
3	\$47,089	\$47,542	\$49,548	\$52,465	\$55,385	\$56,741	\$60,490
4	\$48,502	\$48,968	\$51,128	\$54,015	\$57,047	\$58,613	\$62,546
5	\$49,957	\$50,633	\$53,020	\$55,852	\$58,872	\$60,547	\$64,673
6	\$51,456	\$52,355	\$54,982	\$57,751	\$60,756	\$62,545	\$66,872
7	\$52,999	\$54,135	\$57,016	\$59,714	\$62,701	\$64,610	\$69,145
8	\$54,589	\$55,976	\$59,160	\$61,745	\$64,707	\$66,742	\$71,497
9	\$56,227	\$57,879	\$61,396	\$63,844	\$66,777	\$68,944	\$73,927
10	\$57,914	\$59,846	\$63,729	\$66,014	\$68,914	\$71,219	\$76,440
11	\$59,766	\$61,881	\$66,164	\$68,392	\$71,188	\$73,590	\$79,039
12	\$61,680	\$63,986	\$68,678	\$70,853	\$73,537	\$75,998	\$81,727
13	\$63,653	\$66,162	\$71,317	\$73,362	\$76,112	\$78,467	\$84,506
14	\$65,690	\$68,411	\$74,060	\$76,076	\$79,003	\$81,135	\$87,379
15	\$67,792	\$70,737	\$76,918	\$78,891	\$82,006	\$83,893	\$90,349
16	\$71,161	\$74,915	\$82,200	\$84,306	\$87,020	\$88,764	\$94,746
17	\$75,573	\$80,201	\$88,707	\$90,976	\$93,322	\$94,945	\$100,531

While Derby does have a more generous pay scale, the average teacher salary in Derby (\$64,600) is lower than in Ansonia (\$68,100). This is because Ansonia's teaching staff generally is more experienced and has higher levels of education, as shown in the graphs below:



### Other Staff Salaries

In both Ansonia and Derby, secretaries/administrative assistants, nurses, paraprofessionals, and custodial staff had relatively similar hourly wages. See the tables below for a comparison of wages:

<b>Administrative Assistants/Secretaries (2018/2019 Rates)</b>	<b>Ansonia</b>	<b>Derby</b>	<b>Percent Difference</b>
Low Step	\$21.88	\$22.81	4%
High Step	\$24.79	\$27.06	9%

<b>Nurses (2019/2020 Rates)</b>	<b>Ansonia</b>	<b>Derby</b>	<b>Percent Difference</b>
Rate	\$34.12	\$36.36	7%

<b>Paraprofessionals (2019/2020 Rates)</b>	<b>Ansonia</b>	<b>Derby</b>	<b>Percent Difference</b>
Low Step	\$15.94	\$14.57	9% (Ans. higher)
High Step	\$17.26	\$19.64	14%

<b>Custodial/Maintenance (2018/2019 Rates)</b>	<b>Ansonia</b>	<b>Derby</b>	<b>Percent Difference</b>
Custodial	\$24.29	\$23.78	2% (Ans. higher)
Maintenance	\$26.43	\$32.27	22%

## Benefits

Ansonia Public Schools staff receive their health and dental insurance benefits as part of the ACES collaborative, while Derby Public Schools receive benefits through the city of Derby and Aetna Whole Health. In the 2018-2019 school year, Ansonia paid about \$3,000,000 in health benefits costs and \$150,000 in dental costs, while the Derby paid about \$2,100,000 in health benefits and \$80,000 in dental costs (through the city).

According to one interview, Derby Public Schools considered shifting to the ACES Collaborative in 2018. The plan did not move forward, though, in part due to the potential high variable costs and stop-gap. Derby now knows that the ACES plan would have cost the district an additional \$127,000 in the 2018-2019 school year for stop-gap alone.

## Impact of Regionalization

### Teacher Salary

A new regional school district would need to negotiate a new salary scale with a new teacher union. It is important to note that teachers in Derby belong to a different union than teachers in Ansonia. While the authors are not legal representatives, a 2014 letter from Jonathan Costa (part of Kainen, Escalera, and McHale) covered this topic in the proposed Norfolk and Colebrook regionalization report. The decision

to regionalize, he writes, is not one that the cities need to bargain, but they will need to bargain with unions if regionalization occurs. He elaborates in saying,

“Current statutory and case law does not deal with the issue of treatment or termination of existing CBAs should a board of education or other municipal employer cease to exist and a new municipal employer is formed...the applicable NLRB case law has found that when a company merges two separately represented workforces, the employer may choose to recognize one of the unions as the bargaining representative of the combined bargaining unit, provided that one of the merged groups constitutes such a large proportion of the combined workforce that there is no reason to question the majority status of that particular union...In [the case that it is not clear], the unions would be required to petition the SBLR to have an election to determine which, if either, union would represent the combined unit...In that situation, the Regional Board would recognize [the new union] as the bargaining agent and negotiate a new collective bargaining agreement covering the combined unit (Proposed Regionalization Plan).”

Since a new regional district would need to negotiate a new salary scale, it is impossible to predict the cost in a future district. However, for the purposes of illustration, the table below illustrates the savings and costs of current Ansonia staff moving to Derby’s salary scale under each regionalization scenario, as well as current Derby staff moving to Ansonia’s salary scale under each scenario.

**Savings/Cost of Transitioning to a Different Salary Scale**

	<b>Regional 9-12</b>	<b>Regional 6-12</b>	<b>Regional PK-12 (both)</b>
Ansonia staff shift to Derby’s pay scale*	\$90,000 - \$200,000 additional cost	\$140,000 - \$310,000 additional cost	\$270,000 - \$610,000 additional cost
Derby staff shift to Ansonia’s pay scale	\$30,000 savings	\$90,000 savings	\$220,000 savings

*\*Derby’s pay scale includes more lanes than Ansonia’s pay scale; it is therefore impossible to predict the specific level of education of each Ansonia staff member.*

### **Other Staff Salary**

Similar to teachers, unions for secretaries, nurses, paraprofessionals, and custodial staff would collectively bargain with a new regional district. Since both districts have relatively similar hourly wages, and since collective bargaining could lead to a change in the number of hours worked, the authors assume no savings or extra spending from shifting wages in these units.

### **Benefits**

Without knowledge of claims in each district, it is difficult to estimate the cost of each district switching to the other district’s health plan. Instead, the authors took each individual staff member’s benefits package in each city and then calculated the change in premiums on the other city’s health plan. Note that the table below *does not* include any differing costs based on stop-gap (ISL):

#### Savings/Cost of Transitioning to Different Health/Dental Plans: Premiums

	Regional 9-12	Regional 6-12	Regional PK-12 (both)
Ansonia staff shift to Derby's health/dental plans	\$350,000 savings	\$520,000 savings	\$1,000,000 savings
Derby staff shift to Ansonia's health/dental plan	\$100,000 additional cost	\$180,000 additional cost	\$320,000 additional cost

#### Combined:

Given that Derby teachers are generally paid more than Ansonia teachers and based on focus groups, it seems unlikely that Derby teachers would agree to a contract with a lower pay scale. For this reason and the sake of simplicity, all summary tables assume Ansonia staff will move to the Derby salary scale and benefits package. Therefore, the authors are using the following summary tables moving forward:

	Regional 9-12	Regional 6-12	Regional PK-12 (both)
Ansonia staff shift to Derby's pay scale*	\$900,000 - \$200,000 additional cost	\$140,000 - \$310,000 additional cost	\$270,000 - \$610,00 additional cost
Ansonia staff to shift to Derby's health/dental plans	\$350,000 savings	\$520,000 savings	\$1,000,000 savings
Total estimated savings*	\$200,000 savings	\$300,000 savings	\$550,000 savings

\*Assumes midpoint in the Ansonia pay scale range with rounding.

It should be noted, however, that these are more conservative estimates, and could shift if a different benefits package were chosen.

#### Scores

No impact on status quo. For regional scenarios, as discussed above, it is impossible to predict the costs without a set collective bargaining agreement. However, if Ansonia staff shifted to Derby's pay scale and health/dental, some savings for 9-12 (\$200,000) and 6-12 (\$300,000), and a significant savings for both PK-12 scenarios (\$550,000).

	Status Quo	9 – 12 Regional	6 –12 Regional	PK – 12 Regional (4 elem.)	PK-12 Regional (3 elem.)
Salaries, benefits, and collective bargaining agreements	-	\$(200,000)	\$(300,000)	\$(550,000)	\$(550,000)

#### 4. School-Based Administration

##### Research

Most regionalization research focuses on savings around “administrators” more broadly, rather than specific school-based administrators. See the Central Office section above for select excerpts.



### Current State

In the 2018-2019 school year, Ansonia employed 8 principals and assistant principals, at a total cost of \$1,000,000, whereas Derby employed 6, at a total cost of \$760,000. These administrators were located at these levels:

	Number of principals and assistant principals in Ansonia	Number of principals and assistant principals in Derby
Elementary School	4	2
Middle School	2	2
High School	3	2

### Implications for Regionalization

With school consolidations, regionalization would reduce the number of principals, but larger, regional schools may require additional assistant principals.

	Regional 9-12	Regional 6-12	Regional PK-12 (4 elem.)	Regional PK-12 (3 elem.)
Administrators Needed for Elementary Schools	6	6	6	5
Administrators Needed for Middle School(s)	4	3	3	3
Administrators Needed for High Schools	3	3	3	3
Positions Reduced from Current State	2	3	3	4

As noted earlier, there may be some short-term costs in the transition that would reduce savings. However, the authors cannot estimate these costs as they would need to be bargained.

### Score

No impact for status quo. Some savings for 9-12 regionalization, 6-12 regionalization, and PK-12 regional (4 elementary), and significant savings for PK-12 regionalization (3 elementary).

	Status Quo	9 – 12 Regional	6 –12 Regional	PK – 12 Regional (4 elem.)	PK-12 Regional (3 elem.)
School-based Administrators	-	\$(270,000)	\$(380,000)	\$(380,000)	\$(510,000)

## 5. Teachers

### Research

Related research is listed in the “Salaries, Benefits, and Collective Bargaining Agreements” section.

### Current State

In 2018-2019, Ansonia had 166 teachers and spent \$11,300,000 on their salaries, with an average teacher salary of about \$68,200. By comparison, Derby had 116 teachers and spent \$7,500,000 on their salaries, with an average teacher salary of about \$64,400. Class sizes tend to be larger in Ansonia; the Ansonia district-wide student-to-teacher ratio was 14.8 to 1, while the ratio in Derby was 11.1 to 1.

### Implications for Regionalization

A district can reduce teaching positions and therefore save money with fewer, larger schools. For example, if two smaller schools each have 28 students in 5th grade, but the class size maximum is 25, the district will need to have two 5th grade classes at each school (and hire four teachers total) - whereas if the schools merged, the district will need to hire only three teachers.

That said, class size maxima are set collectively with the teacher's union, and since a regional district would need to negotiate a new Collective Bargaining Agreement, it is impossible to know how exactly how many teaching positions would be needed. For the purposes of illustration, tables in the report for a regional district use a 21.31:1 student-to-teacher ratio at elementary schools, a 17.50:1 ratio at middle school, and a 12.26:1 ratio at high school - ratios that are between Ansonia and Derby currently.

Possible position shifts are as follows:

	9 – 12 Regional	6 –12 Regional	PK – 12 Regional (4 elem.)	PK-12 Regional (3 elem.)
<b>Staffing Saved</b>	-	10.4 FTE at Elementary	10.4 FTE at Elementary	10.4 FTE at Elementary
<b>New Staffing Required</b>	-	10.4 FTE at Middle School	10.4 FTE at Middle School	10.4 FTE at Middle School

Note that:

- 6-12 Regionalization and PK-12 Regionalization will require shifting 6th grade teaching positions from elementary schools to the middle school, and Pre-K to elementary buildings.
- Savings assume the average teacher salary across both districts moves to Derby's salary scale
- Any staffing changes that could occur could take place under "last in, first out," policy in which savings would be reduced.

Last, as noted in the Central Office section, there would be transitional costs in early years. It is impossible, however, to estimate these costs, as these would need to be collectively bargained.

### Score

No impact on status quo. Some savings for 9-12 regionalization, as opposed to some costs for other regionalized scenarios.

	Status Quo	9 – 12 Regional	6 –12 Regional	PK – 12 Regional (4 elem.)	PK-12 Regional (3 elem.)
Teacher staffing changes	-	-	-	-	-

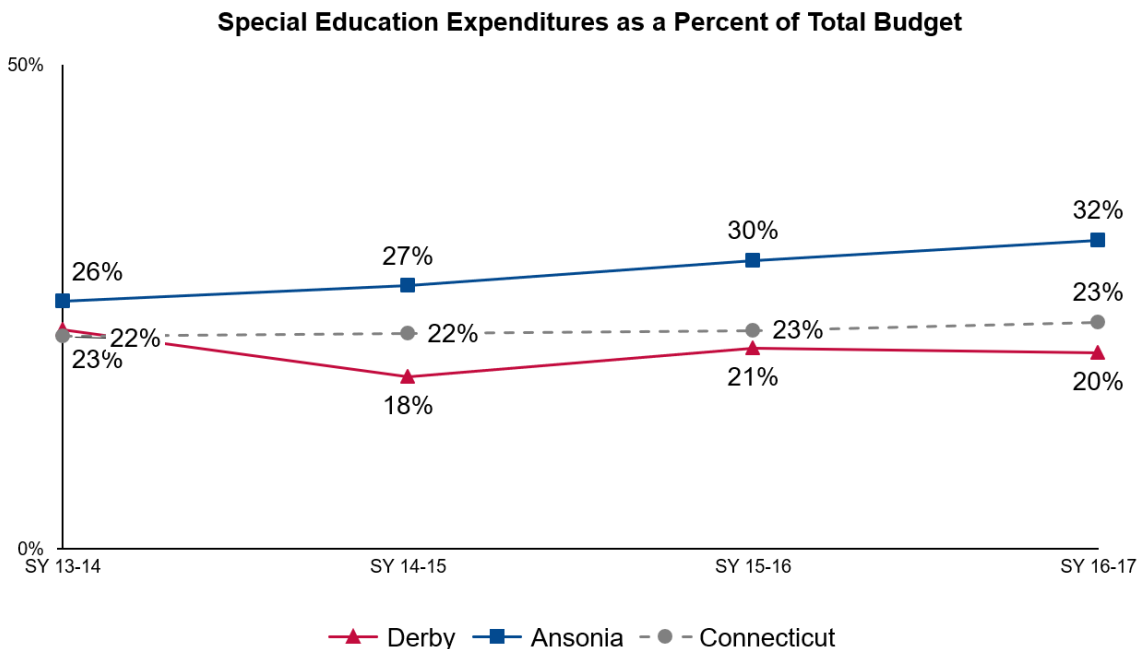
## 6. Special Education

### Research

School districts traditionally spend a disproportionate amount of funds on special education services relative to the number of students in special education. In 2016-2017, 14% of Connecticut students had an IEP, but districts spent an average of 23% of their budgets on special education services (EdSight). These costs originate from smaller learning settings, transportation, and costs for students who require specialized settings outside the district. In fact, according to Connecticut School Finance, a one percentage point increase in the special education student identification rate results in a 2.28 percent increase in cost to achieve the same student outcomes (CT School Finance Project).

### Current State in Ansonia and Derby

On average, from SY14-17 Ansonia's special education expenditures made up 29% of total expenditures compared to 20% at Derby. Ansonia's special education expenditures, as a percent of their total budget, have grown 6% year over year compared to a 3% decrease in Derby from SY13 to SY17, as shown below:



### Implications for Regionalization

A regional district has the potential to save money both with in-district service as well as by bringing students who are currently served out-of-district in the district.

For those served in-district, a regional district could better serve students with disabilities through sharing related service providers, merging specialized classes, and sharing other support staff. The authors assume a 2% savings for these services at the high school level (\$40,000), 5% at the 6-12 level (\$100,000), and 10% at the PK-12 level (\$190,000). The PK-12 level could also be put in place under shared services and a shared central office.

For those currently served out-of-district, bringing students back would not only save money, but could also be a “win” for parents, who send their children on long bus rides. However, an endeavor like this should not be taken lightly: it would require significant planning, including identifying a facility, training (and potentially hiring new) staff, rewriting individual student IEPs, and arranging for other logistics. For these challenges, the authors do not assume any savings here.

### Score

No impact on status quo, 9-12 regionalization, or 6-12 regionalization. Some impact on both PK-12 regionalization scenarios.

	Status Quo	9 – 12 Regional	6 –12 Regional	PK – 12 Regional (4 elem.)	PK-12 Regional (3 elem.)
Special education	-	\$(40,000)	\$(90,000)	\$(190,000)	\$(190,000)

## 7. Utilities

### Research

Articles do support the possibility of utilities and operations savings through regionalization and school consolidation. In a 2013 study, the Federal Reserve Bank of Boston concluded “that reductions in the cost of education services could be achieved “...from closing very small schools, but also from breaking up very large schools.” (Qtd in Rodriguez 3). Similarly, a separate article noted that “single-district counties allocate a higher proportion of current operating expenditures to instruction than do districts in multi-district counties, and that for each additional district in multi-district counties, the allocation of current operating expenditures to instruction decreases” (Qtd in A Review of the Research on District and School Consolidation 16). And finally, a third study conducted for the Center for Policy Research at Syracuse University’s Maxwell School of Citizenship and Public Affairs found evidence that school district consolidation substantially reduces operating costs, particularly when small districts are combined (Qtd in Weldon 3)

### Current State in Ansonia and Derby

In 2018-2019, Ansonia spent about \$1,160,000 on utilities, whereas Derby spent about \$780,000 on utilities, as listed below:

**Utilities Spending (Water, Electricity, Other) SY2018-SY2019**

	Ansonia	Derby
<b>Elementary School</b>	\$420,000	\$390,000
<b>Middle School</b>	\$330,000	\$200,000
<b>High School</b>	410,000	\$190,000
<b>Total</b>	\$1,160,000	\$780,000

### Implications for Regionalization

With fewer schools in use, utility use will necessarily decrease. However, utility use will increase at existing buildings, when considering the additional square footage of additional renovations.

The table below reviews the three regionalization scenarios, the facility closed, the additional utility cost on existing buildings, and projected utilities savings:

Level		9-12 Regional	6-12 Regional and PK-12 Regional (4 elem.)	PK-12 Regional (3 elem.)
Elementary	School Consolidated	N/A	N/A	Closing of Irving Elementary
	Building Addition	N/A	N/A	11% addition to Bradley Elementary
	Increase on Existing Utilities	N/A	N/A	15% at Bradley Elementary
	Savings	N/A	N/A	\$310,000
Middle	School Consolidated	N/A	Closing of Ansonia Middle School	Closing of Ansonia Middle School
	Building Addition	N/A	36% addition to Derby Middle School	36% addition to Derby Middle School
	Increase on Existing Utilities	N/A	40% at Derby Middle School	40% at Derby Middle School
	Savings	N/A	\$250,000	\$250,000
High	School Consolidated	Closing of Derby High	Closing of Derby High	Closing of Derby High
	Building Addition	10% at Ansonia High School	10% at Ansonia High School	10% at Ansonia High School
	Increase on Existing Utilities	15% at Ansonia High School	15% at Ansonia High School	15% at Ansonia High School
	Savings	\$130,000	\$130,000	\$130,000

### Score

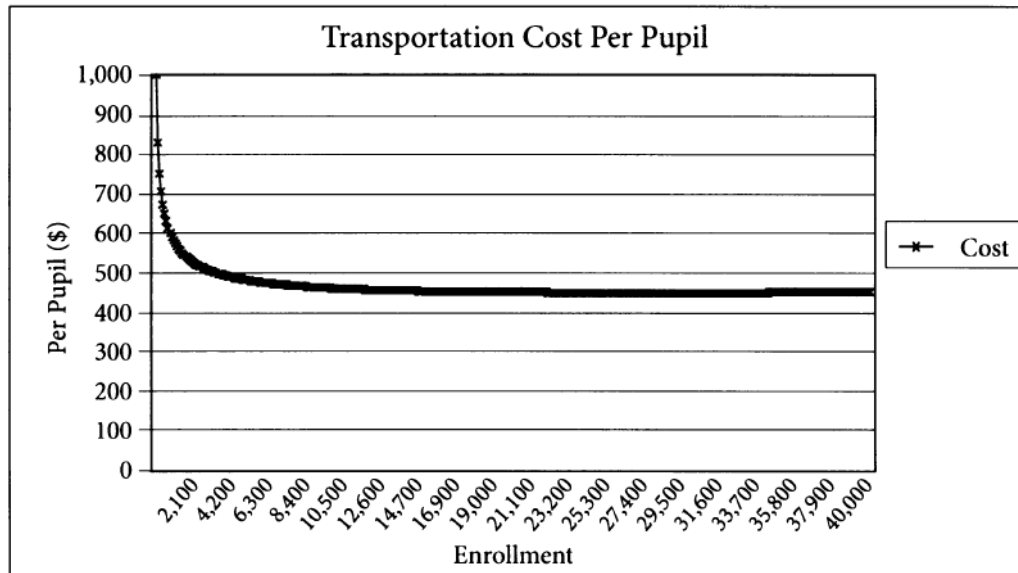
No savings for status quo. Some savings for 9-12 regionalization, for 6-12 regionalization, and for PK-12 regionalization (4 elementary). Significant savings for PK-12 regionalization (3 elementary).

	Status Quo	9 – 12 Regional	6 –12 Regional	PK – 12 Regional (4 elem.)	PK-12 Regional (3 elem.)
Utilities	-	\$(130,000)	\$(380,000)	\$(380,000)	\$(700,000)

## 8. Transportation

### Research

In the event of school consolidation, transportation costs will likely increase. There is some limited research on this topic: Zimmer et al. found transportation did not lend to significant economies of scale, as shown in the graph below:



A December 2015 report from the Connecticut Legislative Program Review and Investigations Committee found that “nearly three-quarters of school districts collaborated on special education pupil transportation” (Regional Cooperation Between Local Boards of Education).

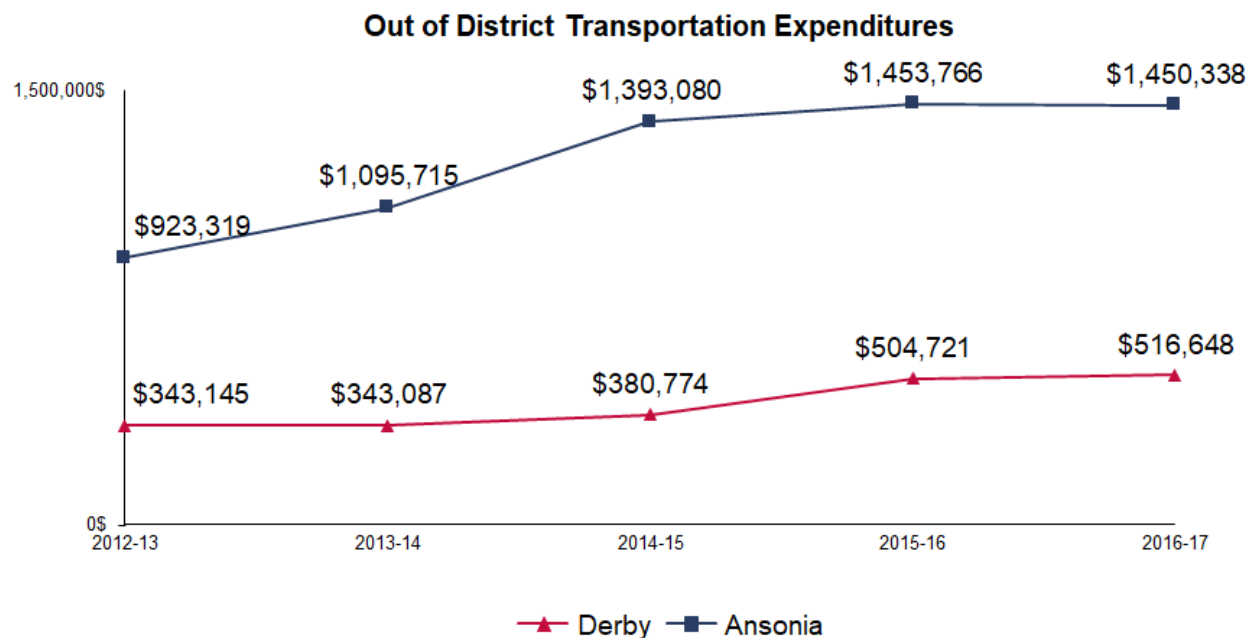
### Current State in Ansonia and Derby

Most transportation needs are served through All Star Transportation. Both Ansonia and Derby partner with All Star Transportation for vehicles, and they share one office, one manager, one safety department, and one maintenance facility with Shelton, Oxford, Seymour, and Beacon Falls (Region 16). All Star currently operates 19 vehicles for Ansonia and 11 vehicles for Derby. Each district pays \$319.14 for each vehicle day, which totals to about \$1,100,000 in Ansonia and about \$630,000 in Derby.

There is no recent data available around general education ridership in Ansonia. In Derby, All-Star Transportation conducted a ridership analysis in spring 2019, which found that about 57% of all Derby

students rode a bus, though on average, buses were only 29% full. In part, this is because both Ansonia and Derby have a bus route and bus seat for every student in each district, even though many students do not ride the bus.

Outside of general education students, both districts spend significant sums of money on out-of-district special education transportation. In 2018-2019, Ansonia spent over \$1,000,000 on out-of-district special education transportation, while Derby spent about \$518,000. According to administrators, transportation of outplaced SPED students is provided by private contractors or the facility they attend, and is not provided by All Star. See expenditures below as a percent of the total budget:



### **Implications for Regionalization**

Regionalization will lead to a negligible and minimal impact on general education transportation costs. While more students may take buses if schools consolidate, the current bus routes already have enough space to account for all students in both districts. Therefore, there would be no need for new bus routes in a regional district.

That said, there may be significant opportunity to save on special education transportation costs. For example, the districts may be able to share transportation for out-of-district special education students. However, these savings will ultimately depend on students' placements and the proximity of their homes.

### **Score**

No impact for all scenarios, as the districts already share a transportation manager. Moreover, there would be no change in the number of general education bus routes, and special education transportation savings depend on student placements.

	Status Quo	9 – 12 Regional	6 –12 Regional	PK – 12 Regional (4 elem.)	PK-12 Regional (3 elem.)
Transportation	-	-	-	-	-

## 9. Economies of Scale

### Research

This section reviews economies of scale, specifically in the areas of technology, curriculum, professional development, maintenance, and other services. Generally, studies have found that districts experience economies of scale, and one of the more debated topics is the “most efficient” school district size. While research does diverge on where that “most efficient” point is, many estimates are greater than the enrollment of a potential regional Ansonia and Derby district (about 3,600 students). Below are some of these findings:

- Zimmer, DeBoer, and Hirth (2009) “found a concave, parabolic cost curve, with an optimal enrollment for cost efficiency of 1,942 students per district, in Indiana” (Qtd in A Review of the Research on District & School Consolidation 15).
- “There is no consensus for the most cost-effective district size...[though] three states show an overlap at a district enrollment of 2,900” (Rodriguez).
- “Karakaplan and Kutlu (2017) find a U-shaped cost function with a minimum cost at a district size of approximately 5,868 students in California” (Qtd in A Review of the Research on District & School Consolidation 19).
- Gronberg, Jansen, Karakaplan, and Taylos “find economies of scale exist for [Texas] school districts up to enrollments of 47,124 students, after which diseconomies of scale appear” (Qtd in A Review of the Research on District & School Consolidation 13).
- Nguyen-Hoang and Yinger (2014) “found a significant U-shaped relationship between per-pupil spending and student enrollment, with diseconomies of scale only arising at an enrollment of 36,315, for school districts in Massachusetts” (Qtd in A Review of the Research on District & School Consolidation 13).

### Current State

Aside from shared services (see Task 2 report), there are no economies of scale from separate districts.

### Impact on Regionalization

The authors anticipate about 10% reduction in costs through general economies at any school that is regionalized, and a 10% reduction in district-wide expenditures in a PK-12 regional district. In a 6-12 regional district, the authors assumed a smaller reduction of redundancies at the district level (5%) as only seven grades would change. At 9-12 regional, the authors assumed a 2% reduction in redundancies, because only 4 grades would be impacted.

### Score

No impact for status quo or 9-12 regional. Some savings for other regionalized scenarios.

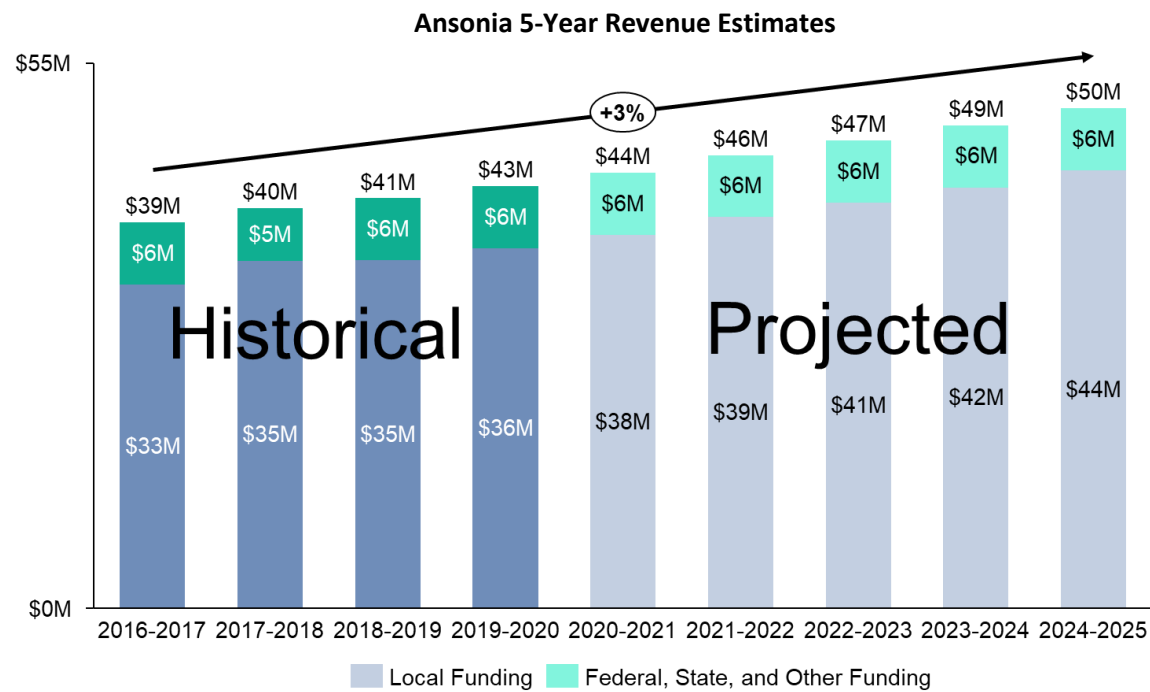


	Status Quo	9 – 12 Regional	6 –12 Regional	PK – 12 Regional (4 elem.)	PK-12 Regional (3 elem.)
Economies of Scale	-	\$(80,000)	\$(150,000)	\$(270,000)	\$(270,000)

### Five Year Projections

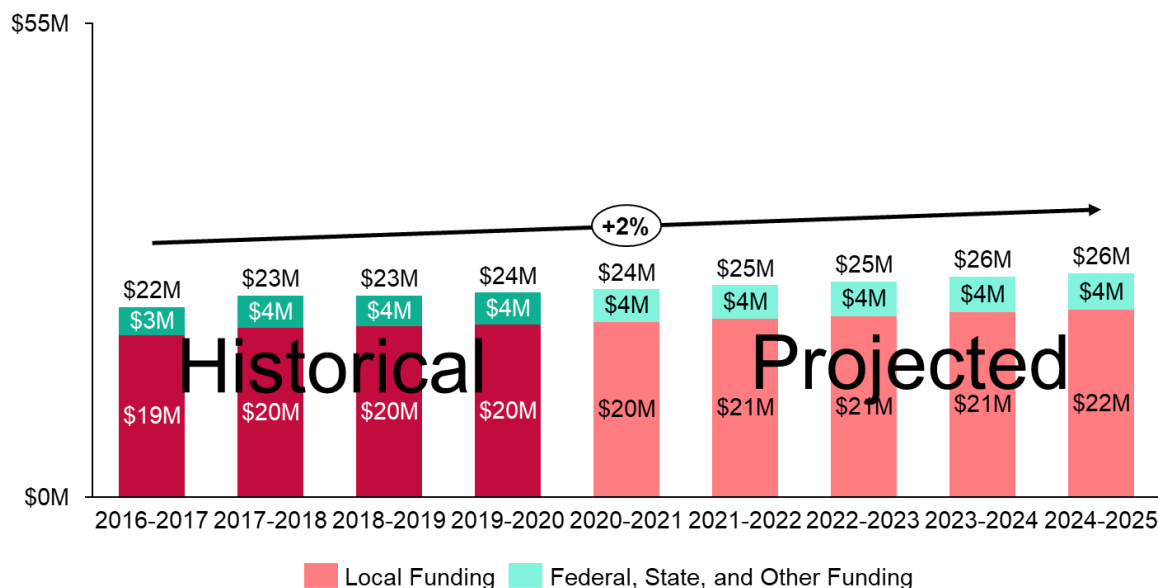
#### Revenues

Based on enrollment projections and current growth rates, Ansonia is projected to receive revenue about \$50 million by the 2024-2025 school year, as shown below:



By comparison, Derby is projected to receive \$26,000,000 by the 2024-2025 school year:

### Derby 5-Year Revenue Estimates

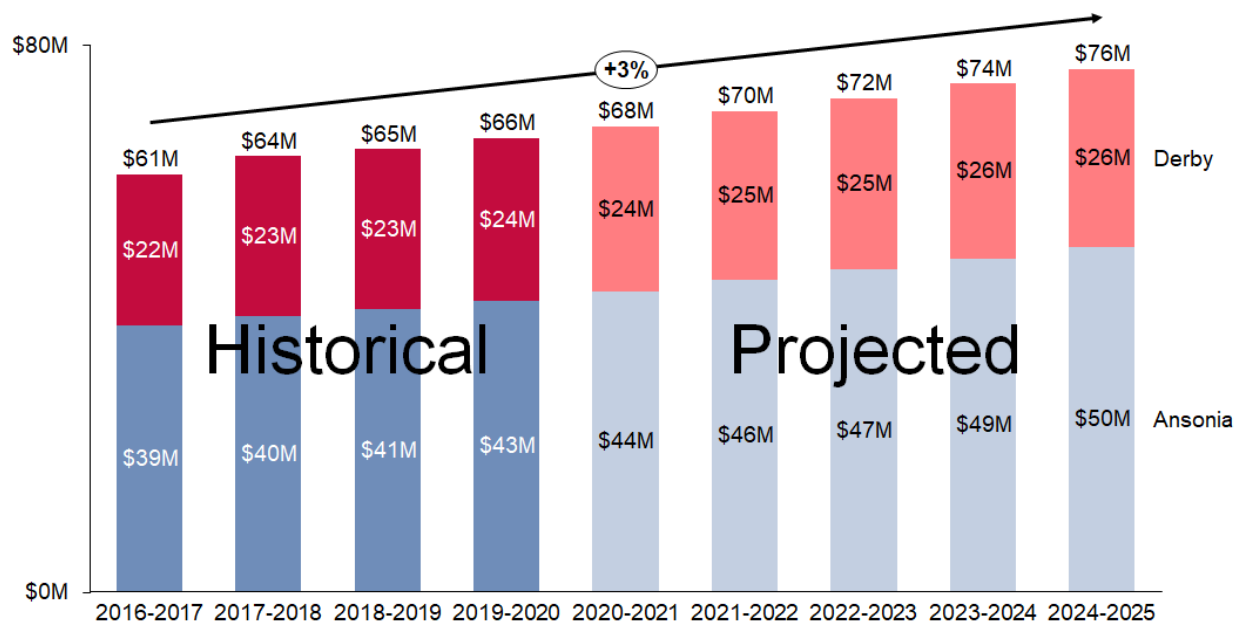


Connecticut also provides a small bonus to regional districts, equal to \$100 per student in a regional K-12 district, and a proportion of that, based on the number of grades regionalized, for districts smaller than K-12.<sup>2</sup> Using projected enrollment, the authors estimate the bonus to total to \$30,000 for a 9-12 regional district, \$100,000 for a 6-12 regional district, and \$340,000 for a PK-12 regional district in the 2020-2021 school year.

Combined, the authors estimate would receive about \$76,000,000 by the 2024-2025 school year, as shown below:

<sup>2</sup> For example, if a town sent 200 students to a regional high school serving grades 9 through 12, the regional bonus would be calculated as  $200 \times \$100 \times (4/13) = \$6,154$ .

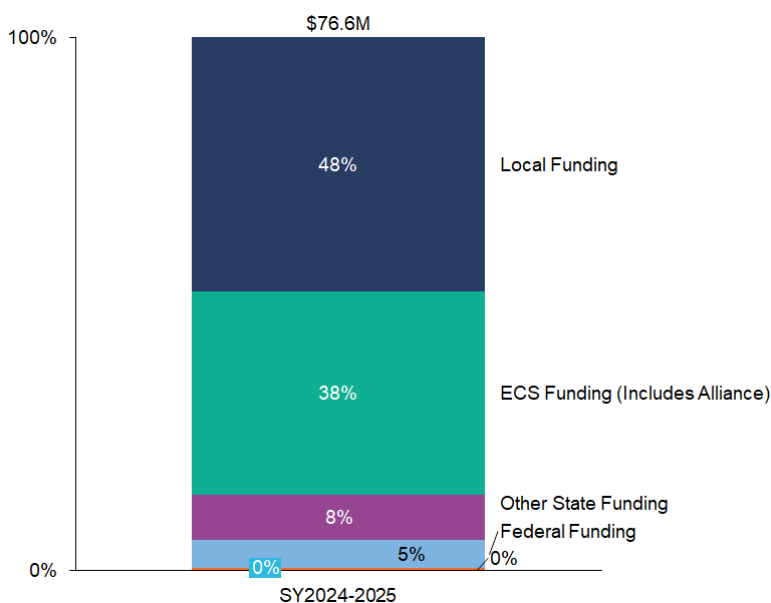
### Combined 5-Year Revenue Projections



\*Regional bonus represents PK-12 scenario.

In the 2024-2025 school year, the projected revenue would come from these sources:

### Combined Projected Revenue Sources, SY2024-2025

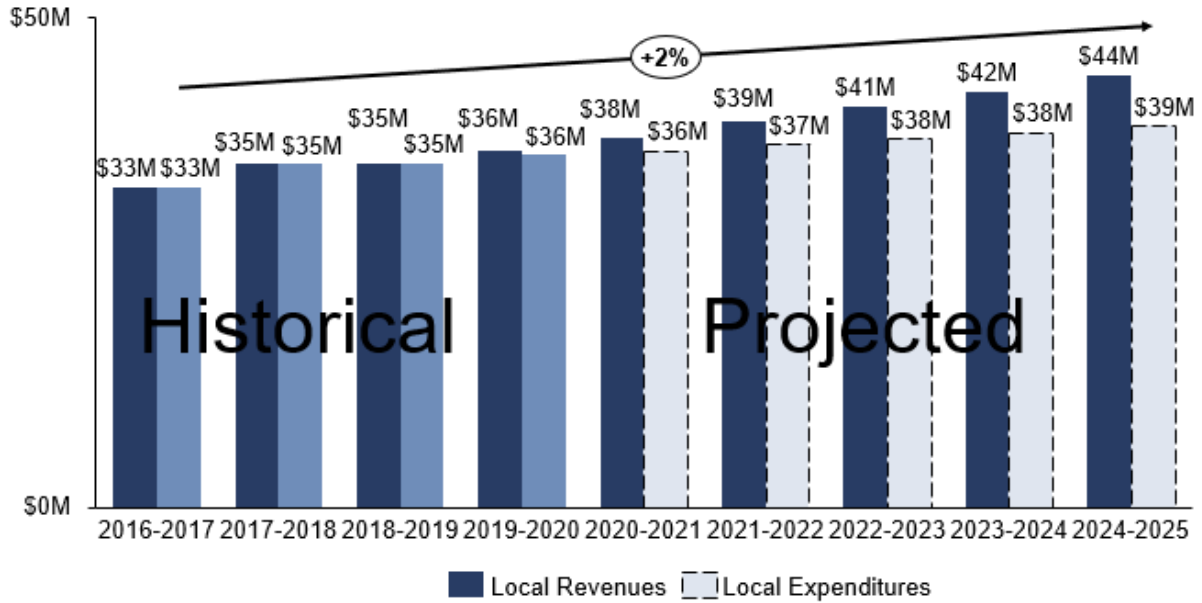


### Expenditures

Based on the current trend in local expenditures (including local and ECS revenue sources), Ansonia and Derby have Compound Annual Growth Rates (CAGR) of 2.42% and 1.81%, respectively. This represents the increase in local spending year-over-year from the 2016-17 to the 2018-19 school years. The authors

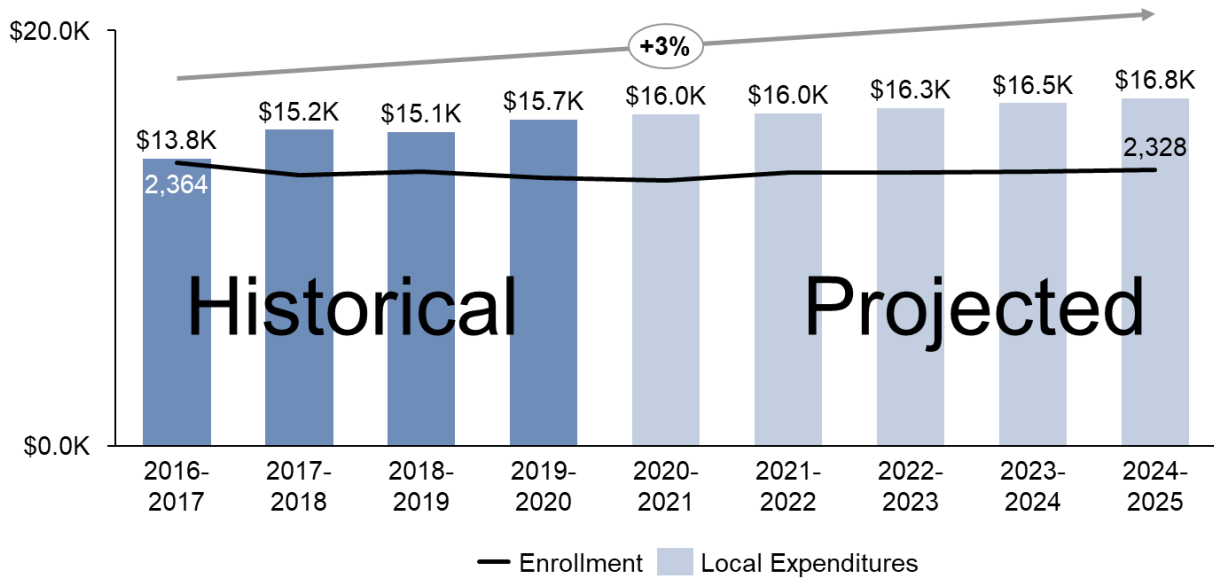
projected expenditures based on this CAGR for all non-personnel and fixed personnel (district and building administrators, clerical staff, and operational staff) and projected expenditures for variable personnel costs (instructional staff) based on enrollment projections. With this, in a status quo scenario, Ansonia is projected to spend about \$39,000,000 in local expenditures by the 2024-25 school year, as shown below:

**Ansonia 5-Year Projected Local Revenues and Expenditures**



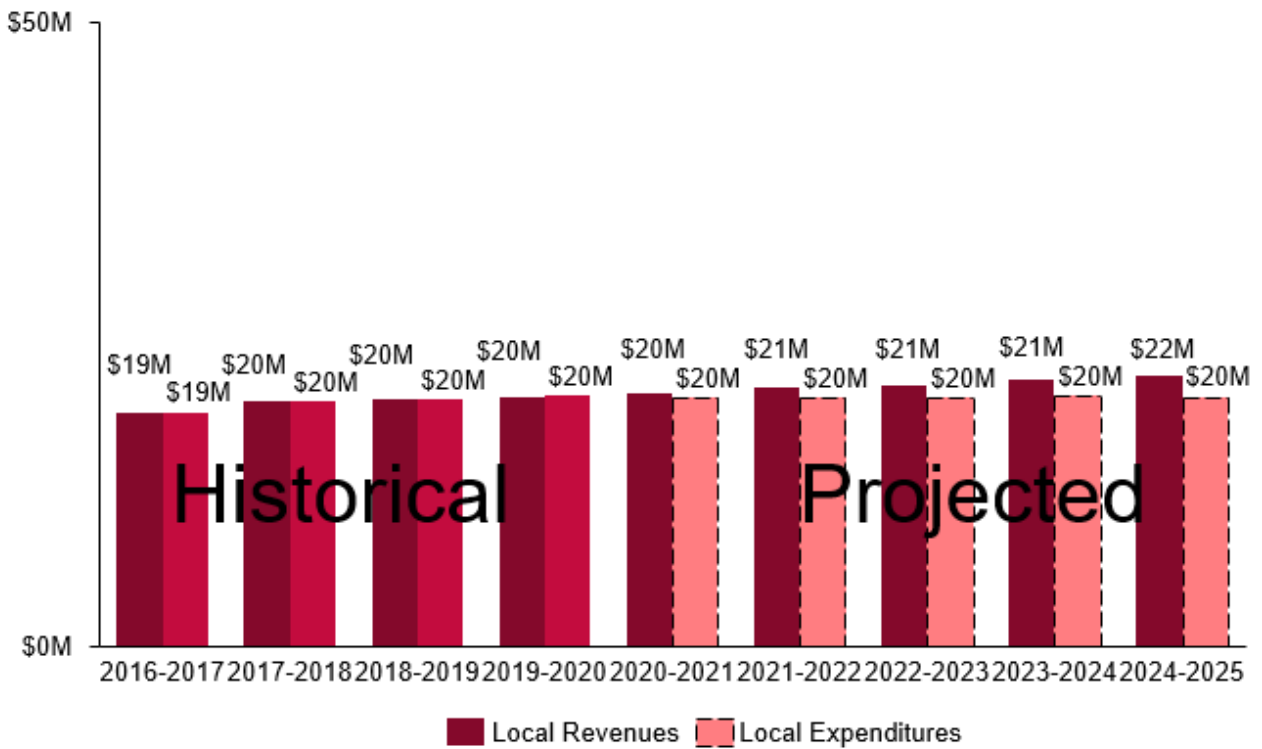
Per pupil, this equates to about \$16,800 spent per pupil in local expenditures in the 2024-25 school year.

**Ansonia 5-Year Projected Per Pupil Local Expenditures**

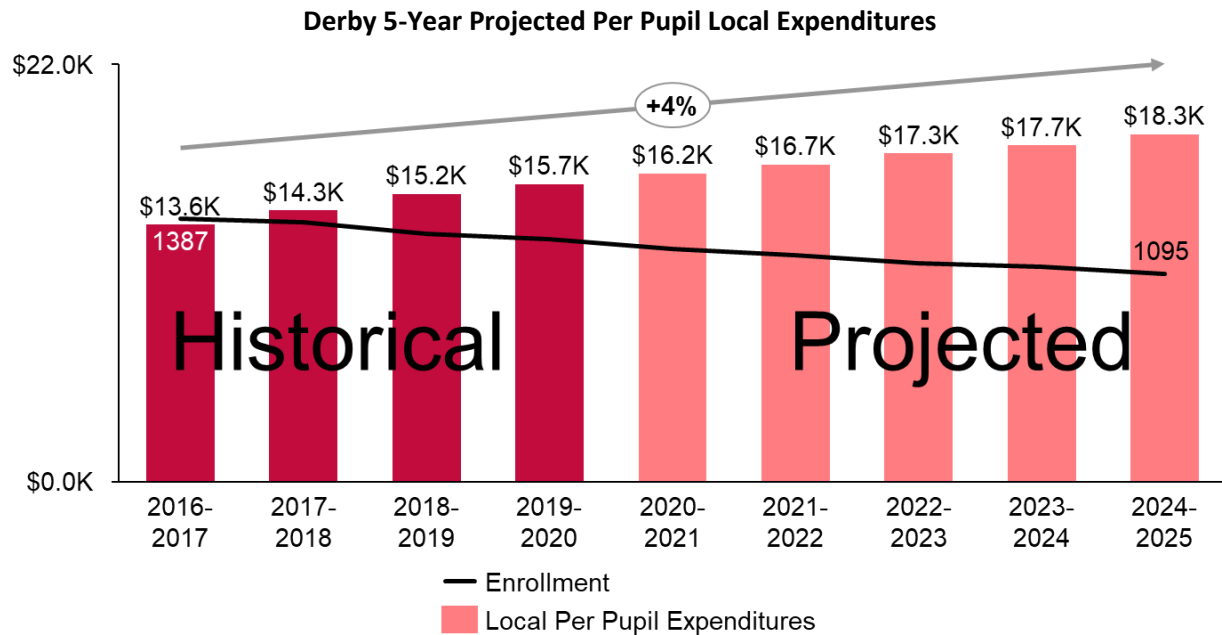


Derby is projected to spend about \$20,000,000 in local expenditures by the 2024-25 school year, as shown below:

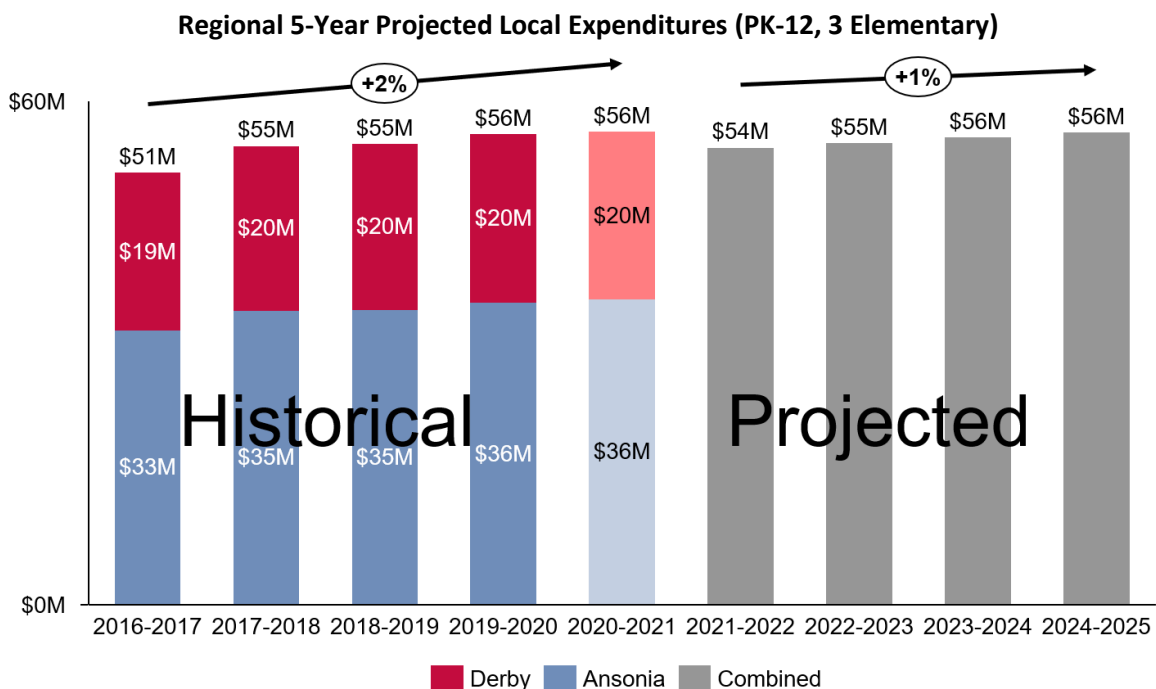
**Derby 5-Year Projected Local Revenues and Expenditures**



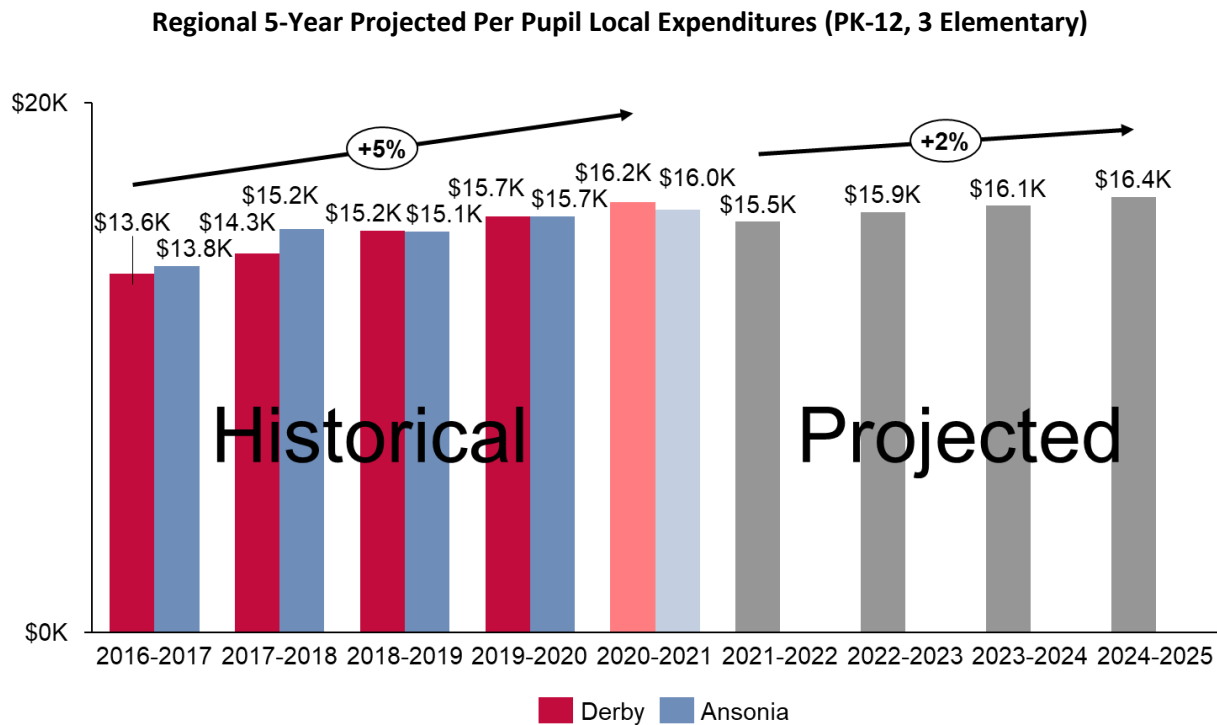
Per pupil, this equates to about \$18,300 spent per pupil in local expenditures in the 2024-25 school year.



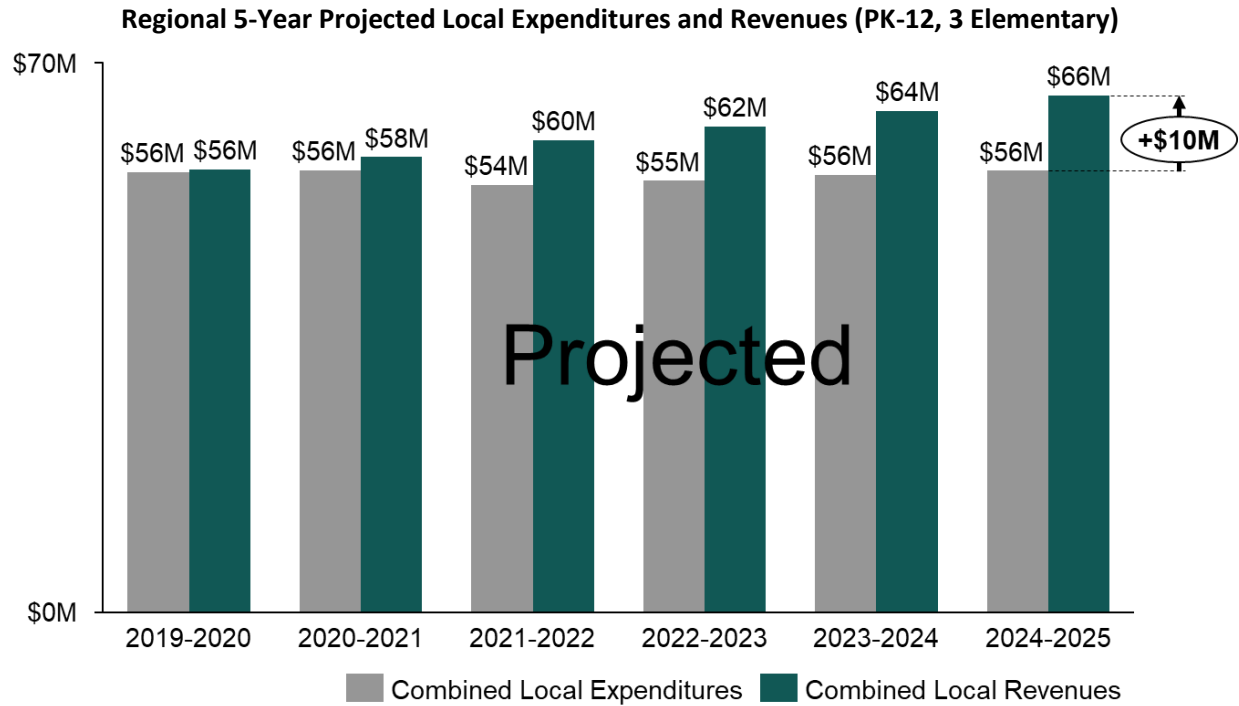
In regional scenarios, expenditures were projected based on the combined CAGR of 2.2%, after the savings for the above domains are incorporated into the budgets during the 2021-22 school year, the year the authors anticipate regionalization taking place. Instructional staff were deployed based on the regional enrollment at elementary, middle, and high schools. For a PreK-12 regional district with only three elementary schools, by 2024-25 local expenditures would reach about \$56,000,000, as shown below:



After a drop from regionalization in the 2021-22 school year, per pupil expenditures are projected steadily rise to about \$16,400 in the 2024-25 school year in this scenario.



In a PK-12 regional district with all four elementary schools, by 2024-25 local expenditures would be slightly higher to account for the additional building administrator and utilities, though these costs would not increase expenditures significantly, and local expenditures would remain around \$56,000,000. The graph below shows these local expenditures versus local revenues, with a local budget surplus of about \$10 million by 2024-2025:



In a 6-12 regional scenario, the total expenditures PK-12 are projected to increase to about \$57,000,000 by the 2024-25 school year. In a 9-12 regional scenario, expenditures PK-12 are projected to increase to about \$58,000,000 by the 2024-25 school year. For both of these scenarios, expenditures would be divided between the local school districts (PK-5 or PK-8) and the regional (6-12 or 9-12) district, based on enrollment, programming, and costs associated with each district. Expenditures are projected to remain similar on a per-pupil basis in local districts to the projected per-pupil expenditures in the status quo, with slight savings from the combined central office. Most savings on a per-pupil basis would be realized by the regional school district.

### City Contributions

According to Connecticut state statute (Chapter 164, Section 10-51), cities must contribute a portion “based on the average daily membership of pupils,” unless another arrangement is set. Therefore, based on 2018-2019 enrollment and spending, total spending from each city for all grades would be as follows, with savings in parentheses:

	Status Quo	9-12 Regional	6-12 Regional	PK-12 Regional (4 elem.)	PK-12 Regional (3 elem.)
Ansonia	\$37,890,000	\$37,260,000 (\$620,000 saved)	\$37,160,000 (\$730,000 saved)	\$37,390,000 (\$500,000 saved)	\$37,110,000 (\$780,000 saved)
Derby	\$23,040,000	\$22,230,000 (\$810,000 saved)	\$21,620,000 (\$1,420,000 saved)	\$21,050,000 (\$1,990,000 saved)	\$20,890,000 (\$2,150,000 saved)



Between the 2021-22 (year of regionalization) and 2024-25 school years, Derby could save up to an estimated total of \$7,000,000 in operating (non-capital) costs, and Ansonia could save up to an estimated total of \$3,800,000 in operating costs relative to the status quo in a PK-12 regional district with three elementary schools.

## VI. Governance and Administration

### Key Points:

- Connecticut regional school districts have between 8 and 12 members on their Board of Education
- Under full PK-12 regionalization, a regional Board of Education would oversee the district and replace the two local boards. Under 6-12 or 9-12 regionalization, the local boards would oversee the younger, non-regionalized grades while a new regional board would oversee the older, regionalized grades.
- Representation on the regional board can be apportioned based on enrollment from each city or combined across both districts.
- The authors provide three potential regional board configurations: (a) a nine-member board, with six board members elected from Ansonia and three board members elected from Derby, each with equal voting rights, (b) five board members elected from each city, with each Ansonia vote counting for 12.8% (64% total divided by 5 members) while each Derby vote counts for 7.2% (36% divided by 5 members), or (c) nine at-large board members elected from across Ansonia and Derby, each with equal voting rights.
- For any regional board, the authors recommend instituting a “crossover voting” rule that requires all approvals to have at least one affirmative vote from each city.
- Ansonia and Derby’s central offices could consolidate, though they could also remain separate under a 6-12 or 9-12 regional district.

If Ansonia and Derby regionalize, a regionalized board of education would be created to oversee the new district. The central offices could merge, or under partial regionalization, they could remain separate. The following sections describe potential board structures and central office arrangements under regionalization.

### Configurations in Connecticut Regional School Districts

In Connecticut, regional school districts have varying structures and memberships, as shown below:

Regional School District	Grades Regionalized	Total Number of Boards of Education in Participating Towns (Local + Regional)	Number of Board Members	Number of Superintendents	Regional Board of Education Composition (by town / city)
Regional School District 01	9-12	7	6	1	1 member per municipality, each vote weighted by enrollment

Regional School District 04	K-12	4	9	1	Chester - N/A Deep River - N/A Essex - N/A
Regional School District 05	7-12	4	12	4	Bethany - 2 seats (1 vacant) Orange - 7 seats Woodbridge - 4 seats
Regional School District 06	K-12	1	9	1	Goshen - 3 seats Morris - 3 seats Warren - 3 seats
Regional School District 07	7-12	5	8	5	Barkhamsted - 2 seats Colebrook - 2 seats New Hartford - 2 seats Norfolk - 2 seats
Regional School District 08	7-12	4	11	4	Andover - 2 seats Hebron - 5 seats Marlborough - 4 seats
Regional School District 09	9-12	3	8	1	Easton - 4 seats Redding - 4 seats
Regional School District 10	K-12	1	10	1	Burlington - 6 seats Harwinton - 4 seats
Regional School District 11	7-12	4	7	3	Chaplin - N/A Hampton - N/A Scotland - N/A
Regional School District 12	K-12	1	12	1	Bridgewater - 3 seats Roxbury - 3 seats Washington - 6 seats
Regional School District 13	K-12	1	10	1	Durham - 6 seats Middlefield - 4 seats
Regional School District 14	K-12	1	8	1	Bethlehem - 4 seats Woodbury - 4 seats

Regional School District 15	K-12	1	10	1	Middlebury - 4 seats Southbury - 6 seats
Regional School District 16	K-12	1	8	1	Beacon Falls - 4 seats Prospect - 4 seats
Regional School District 17	K-12	1	11	1	Haddam - 4 seats Higganum - 2 seats Killingworth - 5 seats
Regional School District 18	K-12	1	9	1	Lyme - N/A Old Lyme - N/A
Regional School District 19	9-12	4	12	4	Ashford - 4 seats Mansfield - 4 seats Willington - 4 seats

A few patterns emerge:

- Regional school districts have between 8 and 12 members on their Board of Education, which aligns with best practice in business.
- In some districts, municipalities are represented equally. In others, larger municipalities have more representation.
- In many districts, there is an even number of board members, resulting in the potential for split or tie votes.

### **Regional Boards of Education with Local Boards of Education**

Based on the configuration of this new district, the roles and responsibilities of the board may vary. A PK-12 regionalized district would be overseen by a regionalized Board of Education. Under a partly regionalized district (grades 6-12 or 9-12), however, a regional board would oversee the older, regionalized grades while Ansonia and Derby would each have their own local board to oversee the younger, non-regionalized grades in each city. The table below summarizes these lines of oversight for each regionalization configuration:

	No Change / Status Quo	9-12 Regionalized	6-12 Regionalized	PK-12 Regionalized
Role for Regionalized Board	-	Oversee high school grades	Oversee middle and high school grades	Oversee whole district
Role for Ansonia BOE and Derby BOE	Oversee respective PK-12 districts	Oversee elementary and middle grades	Oversee elementary grades	-

Note that under a partly regionalized district, Ansonia and Derby would continue to run local school districts through their local boards, while a regional district and board would operate as a separate entity and oversee the older, regional grades.

### Different Size Cities

One concern cited in focus groups was the fact that Ansonia (population about 18,000) is significantly larger than Derby (population about 12,500). Under the federal “one person, one vote” rule, one resident’s voting power should be roughly equivalent to another person (“One-Person, One-Vote Rule”). If board seats are proportional to town population or enrollment, this would lead to a smaller Derby representation on a regional board. Weighted voting, at-large elections, and crossover voting rules could partly address these concerns.

**Weighted Voting:** On some boards in Connecticut, there is an equal number of board members from each municipality. However, each member’s vote carries a different weight, based on the district’s population.

**At-Large Elections:** Under At-Large elections, voters across Ansonia and Derby would vote for all board members. This option would leave open the possibility of equal representation between Ansonia and Derby on the board, though it could also lead to an even smaller Derby representation on the board.

**Crossover Voting:** A “crossover voting” rule requires all approvals to have at least one affirmative vote from each city.

### Potential Regional Board Configurations

Below are three potential configurations for a regional board with Ansonia and Derby:

- Six board members elected from Ansonia and three board members elected from Derby, each with equal voting rights.
- Five board members elected from each city, with each Ansonia vote counting for 12.8% (64% total divided by 5 members) while each Derby vote counts for 7.2% (36% divided by 5 members).
- Nine at-large board members elected from across Ansonia and Derby, each with equal voting rights.

These configurations could be bigger or smaller, as long as they comply with the “one-person, one-vote” rule.

In each of these board configurations, the cities could implement a crossover voting rule. Therefore, even if Ansonia had majority representation on a regional board, at least one Derby board member would need to vote in favor of any proposal for passage.

### Score

No impact for status quo. Mixed effect for 9-12 and 6-12 regionalized scenarios, as both cities would have representation and control but coordination would be required among three boards. Mixed effect

for PK-12 regionalized scenarios, for the simplification of having only one board but the potential creation of imbalanced power between cities.

### **Central Office**

Regardless of the regionalization decision, Ansonia and Derby could merge their central offices into one shared central office. Under a 6-12 or 9-12 regional district, the cities could choose to have separate administrations. In this case, the two offices would administer the younger, local grades and then share or distribute responsibilities for managing services in the older, regional grades. Alternatively, there could be a third, separate superintendent and central office to administer the regional district. Some existing regionalized districts have a dedicated regionalized central office, but this adds cost and complexity.

In the event that districts do not merge to form a regional central office, they will continue to have the same opportunity to share services that they do now. These are described in greater detail in the Task 2 report.

### **Score**

No impact for status quo. Mixed effects due to the range of possible decisions, disruptive changes and potential cost savings.

## VII. Culture

### *Key points:*

- Both communities have strong cultural identities; a new regionalized district would need to find a way to both respect and honor the past while also creating a new cultural identity.
- Ansonia and Derby have experienced significant financial challenges in the media over the past year.
- The sports rivalry, which dates back to 1902, has been an obstacle to regionalization in the past, yet focus groups expressed openness to regionalization “if it is better for kids.”
- Students in both districts would have access to more sports programs at a regionalized high school, but there would be only a single shared mascot for a regionalized high school.

Though they are only 15 minutes from end-to-end, their schools are close together, and they both used to be Birmingham, Ansonia and Derby each have their own deep-seated culture and challenges to regionalization. This section discusses the current cultural context in each community, athletics, and identity under regionalization. Note that this section relies heavily on opinions from focus groups conducted in February and March 2019 in each city with students, parents, staff, administrators, elected officials, and community members.

### Obstacles and Community Perception of Regionalization

#### *Ansonia*

A city of about 18,000 residents (U.S. Census Bureau), Ansonia’s population is aging, and many homes do not send children to Ansonia Public Schools. As a result, there is a constant call to reduce taxes. Officials recounted sentiments from voters like, “Please don’t give more money to the schools” and, “Our mill rates are so high, but we have so little.”

The most notable news surrounding Ansonia’s education community, however, was in 2018 when the Ansonia Board of Education sued the city for \$600,000 (Mayko). Though the two sides settled the lawsuit in February this year, emotions within Ansonia still run high. Ansonia focus groups shared, “We’re airing our dirty laundry,” and, “People in Derby see what’s going on. They’re smarter than that; it’s making regionalization hard.” Derby community focus groups reference the lawsuit too, saying, “Ansonia needs to clean up their financial mess before we’re ready to talk about regionalization.”

#### *Derby*

Derby, a city of about 12,500 residents (U.S. Census Bureau), also has an aging population. One challenge facing Derby, according to focus groups from both cities, is differences in student population. Derby has also had financial struggles in the news. In May, the Derby city treasurer announced that the city incorrectly counted \$1,200,000 in Alliance funds twice, recognizing the same funds in both the

2016-17 budget year and in the 2017-18 budget year (Falbo-Sosnovich). That miscalculation led to a \$2,500,000 million tax increase in July, and was combined with no increase in the district budget for the third year straight.

### *Interest in Regionalization Across Ansonia and Derby*

One question that arose from both Ansonia and Derby was why they were regionalizing with the other district, when they believe they would be better served regionalizing with Seymour or Shelton. One focus group participant half-jokingly said, “You should always marry up,” suggesting that Seymour or Shelton would have more to offer in a regional partnership (than either Ansonia or Derby).

### *Score*

No impact for status quo. Mixed effects for all regionalization scenarios, for the short-term challenge of overcoming these obstacles and perceived opposition to a rival city, but the potential long-term benefits of a coordinated regional office.

### *Athletics*

Sports is often one of the most contentious regionalization issues, and was mentioned by nearly every focus group. Academic papers cite athletics as a major cultural barrier to merging districts; one author even joked, “What’s the most difficult animal to kill? A school mascot” (Weldon 1).

Indeed, of all factors, the sports rivalry between Ansonia and Derby may pose one of the greatest obstacles to regionalization. A 1987 New York Times article mentions how the Ansonia/Derby football rivalry dates back to 1902, when games would draw between 5,000 and 10,000 fans (Ravo). According to one focus group member, a prior regionalization effort years ago was quashed because of the football team. Some students in focus groups initially dismissed the idea of regionalization, because they couldn’t contemplate their community allowing a merged team. Other focus group members said there will always be some “die-hard” Ansonia and Derby residents who will never favor regionalization.

Current students, parents, and staff, though, focused less on the rivalry and more on the increased competition for spots on sports teams. One student said, “I might not get enough playing time [in a regional district],” where another member said, “I hope [regionalization] is after my son leaves, because he’s never going to make a sports team if we regionalize.” By contrast, other focus group members pointed out that a regional school would offer both more competitive teams and more opportunities to participate in sports, through additional athletic offerings and potential junior varsity teams. Based on the 2018-2019 sports programs in each district, students in Ansonia would have access to these teams currently only offered in Derby:

- Boys and girls’ cross country
- Boys and girls’ indoor and outdoor track
- Boys’ wrestling

By comparison, students in Derby would have access to these teams currently only offered in Ansonia:

- Girls’ tennis
- Girls’ volleyball



For all the resistance that focus group members perceived in the community, focus group members themselves were - for the most part - open to the idea of merging sports teams. Multiple participants believed that athletics was a bigger issue in the community than in the schools. According to one participant, "Kids at our schools don't care that much about the rivalry - it's not what it was 30-40 years ago." Another said, "Sports should not be the reason not to regionalize." And, perhaps summarizing the sentiment of many focus groups, one participant said: "If [regionalization] is better for kids, then I'm in favor of it."

### Score

No impact for status quo. Mixed effect on all regional scenarios, as each would lead to shared high school sports teams and more competition for varsity spots, but also more competitive teams and more sports for participants. (Note that the impact of the new athletic fields in Derby is not factored in here, but instead, in the facilities section of the report.)

### Identity Under Regionalization

It may be the case that athletic pride and the rivalry really represent something bigger: an identity, and how regionalization could mean a loss of that identity. Indeed, many community members spoke about how important it is to "preserve and honor these traditions, since our communities are built on these," especially as many residents were "born and raised" in Ansonia and Derby. Still, though groups thought it was important not to abandon unique cultures, they also felt it was "important to establish new cultures." One administrator said, "If there's a way to preserve a sense of tradition and history [through regionalization], it would have some support."

# Conclusion

## Summary

Scores from each section are combined and incorporated into the summary table, shown in the Executive Summary and Appendix A.

It is the authors' belief that any effort to regionalize Ansonia and Derby would face stiff resistance from many stakeholder groups, and that regionalization may not muster sufficient support to pass a referendum in each city. Nonetheless, the authors believe the TRSSC should consider the two PK-12 regionalization scenarios alongside the status quo, given the increased opportunities for all students, the decreasing enrollment, and the financial savings - or, barring that, sharing services and operations through cooperative arrangements (see Task 2).

## Next Steps

Following the release of this report, the TRSSC will decide if it believes regionalization is advisable.

- **If the TRSSC decides that regionalization is advisable:** the TRSSC will submit a proposal to regionalize to the state Board of Education for approval. If the plan is approved by the state, a referendum with both cities will be held 45-90 days after receiving approval from the state on the same day. The question for this referendum will be, "Shall a regional school district be established in accordance with the plan approved by the State Board of Education on .... (date)?" If both cities approve the vote, implementation of the regionalization plan can commence. If the referendum does not pass in one city, the TRSSC can revise and resubmit their plan for another referendum, if it chooses.
- **If the TRSSC decides that regionalization is not advisable:** the TRSSC will still submit a report to the state Board of Education, but there will not be a referendum.

As the TRSSC is dissolved two years after its creation<sup>3</sup>, the committee should consider making a decision no later than April 10, 2020.

If the referendum is approved by both districts, the legislative body of each city nominates and elects members for the Regional Board of Education within thirty days of the referendum to create Regional School District #20. These members represent each city until their successors are identified. If regionalization is for all grades (PK-12), the boards then have two years until the local boards are dissolved.

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<sup>3</sup> C.G.S. Section 10-39(b) does allow the legislative bodies of the participating cities to vote and extend the life of the committee for up to two years beyond the initial two-year period that the committee is in operation. However, by making a decision prior to April 10, 2020, the committee can avoid the need for an extension from both cities.

## Appendix A: Frequently Asked Questions

Focus group participants cited a number of questions and concerns about regionalization across both districts. Below, the authors provide some of the most common topics and provide brief answers:

### ***Would we lose Alliance grants under a regionalized district?***

It is very likely that the new regional district would be designated an Alliance District. Both Ansonia and Derby are alliance districts, and while the state Board of Education would need to designate a new regional district as an Alliance District, multiple officials said there was little reason for concern here.

### ***Would there be additional competition for scholarships in a regionalized school?***

The University of Connecticut considers “students who rank number one or two in their high school graduating class” for their Presidential Scholarship. Therefore, it is true that two fewer students would be eligible for this scholarship in a regional district.

### ***Would students leave to attend other schools, like private, parochial, magnet, or other?***

It is impossible to predict or estimate the true impact of attrition. While some families may say they will leave under regionalization, it is unclear whether these families would leave.

### ***Would one city have to take on the other city’s financial issues?***

Each city would pay an equal amount for each student who attends the new regional district. The governments of each city would be independently responsible for providing the necessary funding for the regional district, through local property taxes and other revenue sources.

## Appendix B: Unique Course Offerings

*DMGroup defined “unique” as courses available exclusively at one high school.*

### **Ansonia Unique Courses**

- |  |   |  |
|--|---|--|
| • Aerospace Engineering                  | • ECE/AP Chemistry                        | • Introduction to Professional Cooking |
| • AP Biology                             | • ECE/AP Environmental Science            | • Journalism I                         |
| • AP Computer Science                    | • ECE/AP Physics                          | • Law-History (Level II)               |
| • AP English Literature and Composition  | • ECE/Art III                             | • Law-History II Criminal/Juvenile     |
| • AP Language and Composition            | • Economics                               | • Mandarin I                           |
| • AP Statistics                          | • Family Life                             | • Mandarin II                          |
| • Art II                                 | • General Science                         | • Mandarin III                         |
| • Business Editing & Publishing I-L1-Sr. | • Global History II                       | • Multicultural Literature             |
| • Business Law                           | • Gothic and Fantasy Literature           | • Music and Keyboarding I              |
| • Business Sports & Entertainment        | • Graphic Arts                            | • Music and Keyboarding II             |
| • Ceramics I                             | • Production: Digital Dark Room           | • Personal Finance II                  |
| • Ceramics II                            | • Graphic Novel                           | • Physical Education for Lifetime      |
| • Chorus II                              | • HCC CCP Accounting                      | • Popular Literature                   |
| • Chorus III - Honors                    | • HCC Marketing                           | • Pre-Calculus (Level II)              |
| • Chorus IV- Honors                      | • Honors College Writing                  | • Principles of Engineering            |
| • Civics II                              | • Instrumental Music II                   | • Senior Composition                   |
| • Computer Applications I                | • Instrumental Music III - Honors         | • Shakespeare on Stage and Screen      |
| • Computer Applications II               | • Instrumental Music IV- Honors           | • Sociology II                         |
| • Consumer Economics                     | • Integrated Science: Bio-Life Systems    | • Understanding the Media              |
| • Current American History               | • Integrated Science: Earth-Space Systems | • World Cultures                       |
| • Developmental Reading and Writing      | • Introduction to Computer Science        | • World Cultures II Demographics       |
| • Digital Electronics                    | • Introduction to Forensic Science        |  |
| • ECE Modern Western Traditions          |   |  |

## Appendix B Continued: Unique Course Offerings

*DMGroup defined unique as courses available exclusively at one high school.*

### Derby Unique Courses

- Advanced Digital Photography
- Desktop Publishing/Yearbook
- Digital Photography
- Drawing and Painting
- Graphic Design
- Sculpture I
- Sculpture II
- Contemporary Literature
- English I (H)
- English IV (H)
- English IV Literature and Composition (CP)
- Trigonometry
- Band (CP)
- Concert Choir
- Music Appreciation (CP)
- Health and Safety
- Personal Fitness and Weight Training
- Conceptual Chemistry
- Forensics
- Integrated Earth and Physical Science (CP)
- Integrated Earth and Physical Science (H)
- Physics/Lab
- AP U.S. Government and Politics
- EUS (CP)
- EUS (H)
- Holocaust Studies
- Humanities - American Literature/History
- Military History
- Modern World History (CP)
- Modern World History (H)
- Psychology (CP)
- UCONN ECE HIST 1300
- US History (H)
- Accounting I
- Accounting II
- Benchwork MFG 166
- Blueprint Reading I MFG 124
- Building Construction I
- Building Construction II
- Business Management
- Engineering/Architectural Drafting I
- Engineering/Architectural Drafting II
- Enterprise Production
- Introduction to Machine Technology MFG 150
- Metrology MFG 120
- Solidworks MFG 110
- Wood Technology
- Wood Technology II
- Italian I
- Italian II
- Italian III
- Italian IV
- Spanish (AP)
- Spanish III (H)
- Spanish IV (H)
- Spanish V (H)
- UCONN - Italian Comp/Conversation I
- UCONN - Italian Comp/Conversation II

## Appendix C: Extracurriculars

### *Ansonia All Extracurriculars*

- After School Chorus
- Astronomy
- AV Club
- Book Club
- Chess/Gaming Club
- Computer Club
- DECA
- Ecology Club
- Environmental Club
- FBLA
- FCCLA
- Film Club
- Forensics Club
- Garden Club
- Global Scholars
- GSA
- Guitar Club
- Hiking/Biking Club
- History Club
- Human Relations Club
- Junior Achievement
- Junior Statesmen of America
- Khan Academy Club
- Mentoring Club
- Mr. AHS
- National Honors Society
- National Art Honor Society
- Random Acts of Kindness Award
- Robotics Club
- S.A.D.D.
- School Store
- Sikorsky Bank Intern Program
- Ski Club
- Spanish Club
- Spirit Club
- Student Ambassadors
- Student Government
- Student of the Month
- Talent Show
- Technology Student Association
- Unified Basketball
- United Way HS Volunteer Council
- Vocal Vibes
- World Language Honor Society
- Wrestling Watching Club
- Write Clique

### *Derby All Extracurriculars*

- Tri-M Music Honor Society
- National Honors Society
- United Way HS Volunteer Council
- Spanish Club
- Wellness Club
- HRC
- Italian Club
- Italian Honor Society
- Skills USA
- TSA
- Art Club
- G.S.A.
- Lookout Yearbook
- Class Act Council

## Appendix C: Extracurriculars continued

*DMGroup defined “unique” as extracurriculars available exclusively at one high school.*

### **Ansonia Unique Extracurriculars**

- After School Chorus
- Astronomy
- AV Club
- Book Club
- Chess/Gaming Club
- Computer Club
- DECA
- Ecology Club
- Environmental Club
- FBLA
- FCCLA
- Film Club
- Forensics Club
- Garden Club
- Global Scholars
- Guitar Club
- Hiking/Biking Club
- History Club
- Junior Achievement
- Junior Statesmen of America
- Khan Academy Club
- Mentoring Club
- Mr. AHS
- National Art Honor Society
- Random Acts of Kindness Award
- Robotics Club
- S.A.D.D.
- School Store
- Sikorsky Bank Intern Program
- Ski Club
- Spirit Club
- Student Ambassadors
- Student Government
- Student of the Month
- Talent Show
- Unified Basketball
- Vocal Vibes
- World Language Honor Society
- Wrestling Watching Club
- Write Clique

### **Derby Unique Extracurriculars**

- Tri-M Music Honor Society
- Wellness Club
- Italian Club
- Italian Honor Society
- Skills USA
- Art Club
- Lookout Yearbook
- Class Act Council

## Appendix D: Reimbursement Requirements & Site Analyses

Guidelines for determining eligibility of school construction projects for status as renovations (CGS 10-282):

1. The applicant must submit a written application for such status.
2. The applicant must have gone through a formal process of evaluating the proposed project. Professional estimates must be available to document that significant cost savings will result.
3. The entire facility must be brought into 100 percent compliance with all applicable codes (including handicapped accessibility) when this renovation project is complete.

(Partial renovations of an entire facility or complete renovations of a wing of a facility does not qualify.)

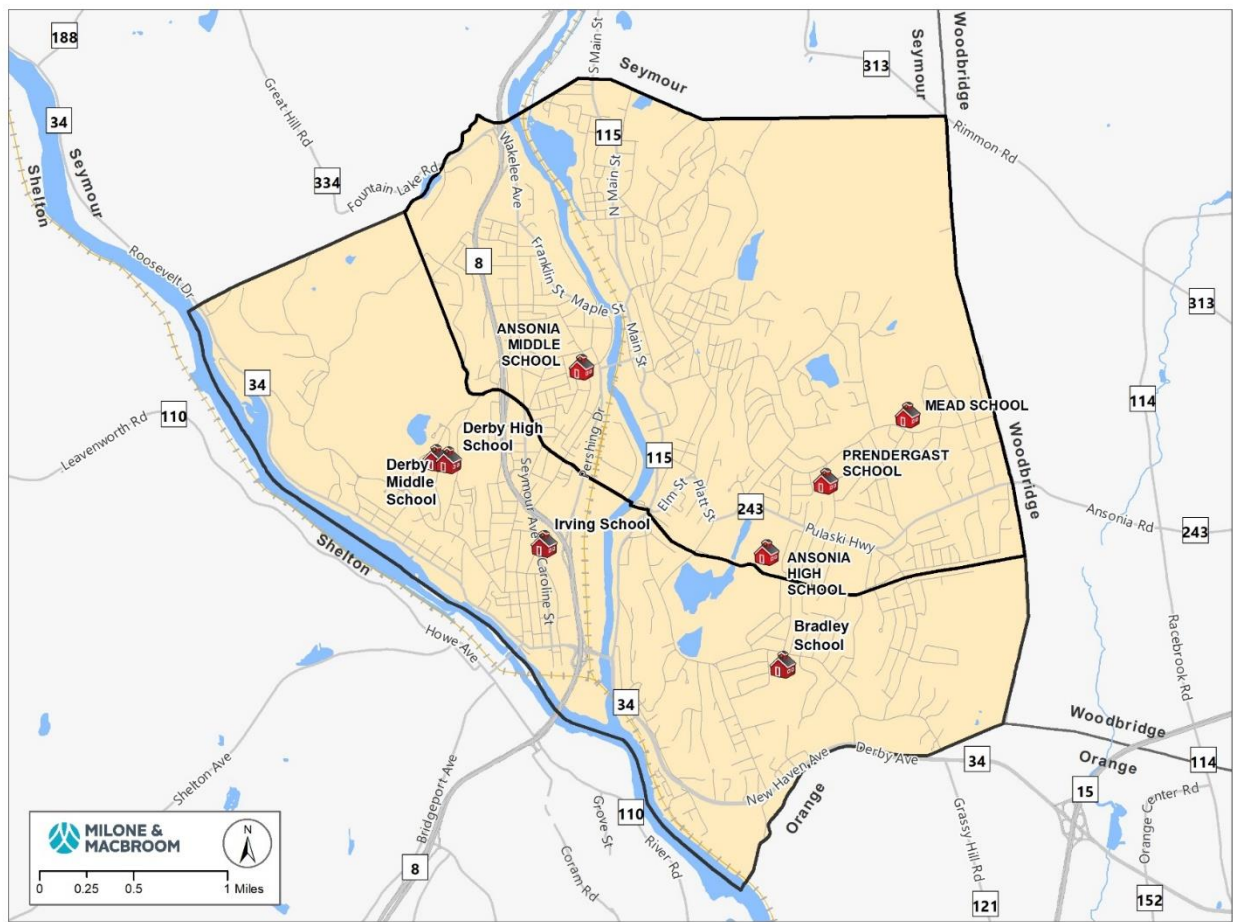
4. The renovation must incorporate education technology capability throughout the facility, as recommended in the *Guidelines for Technology Infrastructure in Connecticut Schools*.
5. It must be determined by a structural engineer that the structural integrity of the original building has not been compromised and is adequate to provide for continued occupancy for a period of time comparable to that of a new facility.
6. A detailed report on all existing building systems must be provided, including HVAC and electrical systems, water, roofing, lighting, plumbing, energy monitoring, communications and security systems. Professional opinions must be provided that all systems will have a useful life of at least 20 years following the construction project.
7. All new and replacement windows must be energy efficient.
8. The site of the existing facility must be central to the area served and adequate to provide the educational programs offered.
9. Any other analysis deemed necessary by the Department to properly evaluate the request must be provided.



## Site Analysis: Ansonia Schools



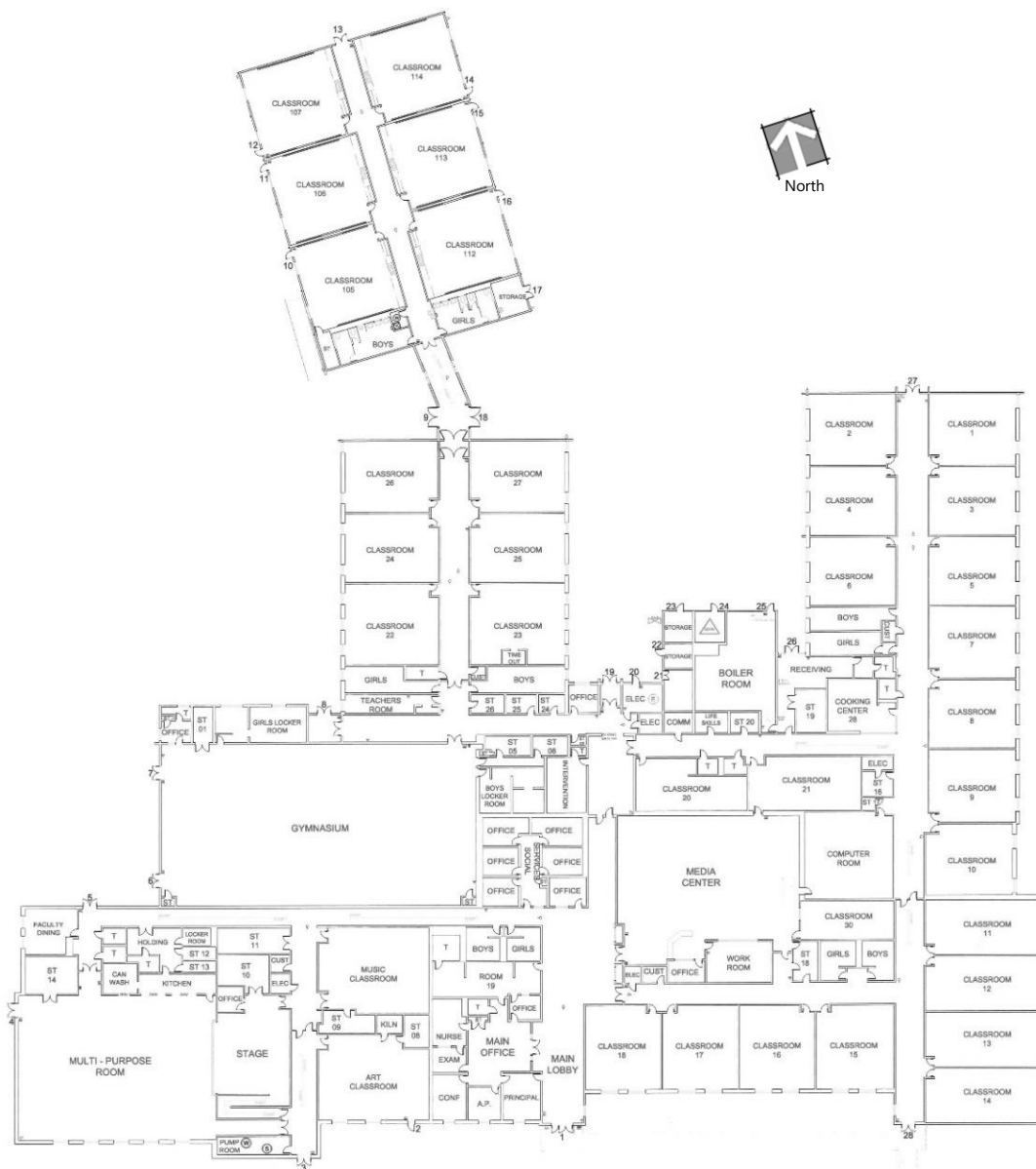
### Ansonia Mead Elementary School



Architecture

## Layout

Overall, Mead Elementary School is in good condition, and has been well maintained based on the existing conditions and existing systems. The school was constructed in 1968 with additions added in 1995 totaling the square footage at 81,051. The 1995 addition include the entire front of the building including the media center, the cafeteria, the main office suite and front classrooms. The gymnasium is original. The building is well organized with gym, art, music and the cafeteria all clustered together. The media Center is centrally located, and the classrooms are broken into 2 wings with a few at the front. A six-classroom portable structure is an extension of the west wing. The entry is fairly well defined but lacks a direct connection to the office. Security vestibule has been installed and is in close proximity to the office.



## Interior

The interior of the building is well maintained. Most ceilings are a variety of 2x2 or 2x4 dropped acoustical ceiling tiles. They all appear to be in good condition. Most of the flooring throughout most of the facility is VCT and in good condition with limited cracking. The older classroom wings do contain 9x9 floor tiles which likely contain asbestos. The media center and offices have carpet which appear to be in good condition. There are also ceramic tile or new epoxy floor systems in the bathrooms. The corridor walls consist of painted block. Wood or hollow metal doors within painted metal frames are in good condition. The casework throughout most of the school is plastic laminate and in fair condition.

Limited ADA and code issues were noted at this facility. These items should be included in the long-term capital plan. The prep sink in the kitchen/prep areas is not ADA compliant. Toilet rooms throughout the school contain numerous violations of federal, building, and accessibility codes. Some handicap toilet stalls do not appear to have code complaint grab bars. Floor urinals are not compliant. Overall the interior is in great shape.

### **Exterior**

On the exterior, the brick walls of the school are in fairly good condition, with a few areas of settling and spalling. The building is constructed with brick “veneer”, and air space and painted concrete masonry unit interior. The energy efficiency of the original construction is very low, and typical in the 1960s (“pre energy crisis”), and not one that is easily or readily corrected. However, the 1995 addition occupies the front exterior perimeter. This construction likely contains insulation, improving the efficiency. Masonry is in pretty good condition with some limited areas of spalling at the original portions of the building. Overall, the mortar is in good condition with wall areas of around 20% in need of repointing. Some exterior door bases and mullions are rusting and may need to be repaired or replaced in the future.

When evaluating the energy efficiency of a building, it is known that nearly 25–40% of all heat energy is lost through windows. The windows were done in the 1995 project with double glazed aluminum systems. They appear in good condition. The roof was replaced in 2012. The original wood soffit is aging and in need of repainting or replacement.

## **Plumbing**

### **Existing Systems**

A 4” water service enters at the Water (“Pump”) Room located on the south exterior wall adjacent to the Multi-purpose Room. A static pressure of 55-60 psi was observed. A water meter pit located on site near Ford Street contains a meter and bypass.

Backflow protection on water supplies to Boiler Room non-potable systems are in place.

The building has gas service and a fuel oil storage tank. The main building’s space heating is primarily accomplished through dual fuel-fired boilers. The recently constructed portable classroom building is heated via gas-fired rooftop units.

One fairly new PVI gas-fired storage domestic water heater (399 MBH input, 70 gallon storage) with thermostatic mixing valve and recirculation serves the entire building. A tankless gas-fired water heater serves the portable classroom building.

The Kitchen is a serving kitchen only; meals are provided from the large central kitchen at Ansonia High School. Plate and flatware are all disposable. A commercial dishwasher with booster heater cleans serving trays, utensils, bowls, etc. There is no pot sink or grease trap.

A wall-mounted hand sink appears to be ADA compliant, however, the prep table with integral prep and hand sinks is not accessible.

Roof and roof drain systems are in decent shape. Portions of the roof were replaced in 2000, and in those areas, separate primary and emergency drainage systems have been provided. Older roof portions have primary roof drain systems only; emergency roof drain systems will be added when these roof areas are replaced.

Few piping issues, including leaks and missing insulation, were observed during the visit.

Plumbing fixtures uniformly appear to be of recent vintage, and maintained in good working order, though a water cooler went “out of order” during the visit. The toilets and urinals have manual flushometers; lavatories have manual faucets.

Fixture ADA compliance is good. Exceptions: Prep station in Kitchen, disused locker toilet/shower rooms, P.E. office toilet room. Pipe protection is lacking on a few accessible lavatories. Classroom sinks have compliant sink depths and faucets and the required insulation on exposed piping below the fixture is usually provided.

The Art Classroom has a sink fitted with solids interceptor on waste piping.

No anti-scald protection is provided at lavatories, in case of water heater thermostat failure.

There are no radon removal systems; testing (performed every few years) has not indicated actionable radon levels.

Confirmation is required that any waste from all floor drains is connected to sanitary, not storm, and that proper backflow prevention is provided for custodial sink faucets and cleaning agent feeds.

### **Proposed Systems**

It is recommended that temperature limiting devices be provided on handwashing sinks and lavatories as soon as possible for occupant protection.

Provide ANSI A117.1 (ADA) fixture compliance in the few areas not already made compliant.

Provide missing insulation on exposed piping at otherwise ADA-compliant lavatories, hand sinks and counter sinks.

## **Fire Protection**

### **Existing Systems**

A 6" fire service enters the Water ("Pump") Room located on the south exterior wall adjacent to the Multi-purpose Room. A static pressure of 55-60 psi was observed. Backflow prevention device is a 6" Watts 909 double check valve assembly.

Fire service entrance arrangement includes two alarm check valve (wet pipe) risers and a Storz wall-mounted fire department connection.

The facility has automatic sprinkler systems throughout, including the newly constructed classroom portables building.

The wet sprinkler system has multiple sprinkler zones, each with supervised control valve and flow switch.

The performance area associated with the Multi-Purpose Room has a standpipe system with hose valve/hose station on each side of the stage.

### **Proposed Systems**

None.

## **Mechanical**

### **Existing Systems**

The existing mechanical systems have been installed in 1998 and are past their useful working expectancy. The existing mechanical RTU's have DX cooling with no heating capability. Heating is provided by duct mounted hot water heating coils on the supply duct for all of the RTU's. There is a roof mounted air-cooled chiller as well. Space heating for the building is provided by a boiler plant that produces hot water and then pumped to the heating coils, cabinet unit heaters, fan coils, etc. The boilers were replaced more energy efficient boilers and pumps in 2017. Each of the classrooms have cooling and heating provided by either floor mounted or ceiling mounted unit ventilators. They are a dual temperature piping system. General exhaust for classrooms is provided by exhaust fans in the exterior walls.

The portable classrooms were installed roughly in 2017 in which new ductwork and gas fired RTU's were installed. These systems have controls in each of the classrooms that they serve.

The boys and girls bathrooms are original to the project. The exhaust system for the areas are insufficient and should be replaced.

Temperature control issues have been reported in the IT rooms. The temperature in this area have not been steady at all. The existing Building Management System is outdated and needs to be replaced.

### **Proposed Systems**

The classroom areas should have the unit ventilators and exhaust fans removed. The existing RTU's and chiller plant would be removed. New RTU's will provide ventilation air as well as the proper supply air for space heating and cooling. The RTU should be equipped with enthalpy wheels, have a VFD controlling the supply and exhaust fans, if so equipped. Air distribution in the space will be accomplished by conventional diffusers, grilles and VAV terminal boxes with hot water re-heat coils in them. A new chiller should be installed with modulating capability to reduce energy costs as required. New pumps shall be installed, with VFD's, to modulate the flow of the pumps depending on the flow and pressure head required.

Toilet/Locker Room Exhaust: Each Toilet Room and Locker Room will be provided with exhaust as required by the Mechanical Code, and Energy Recovery Ventilators will be reviewed as an option.

Automatic Temperature Controls/Energy Management System: A Building Management System (BMS) will be provided for the facility to meet the facilities' requirements. Each zone will have a dedicated temperature sensor in which the occupants can adjust the temperature accordingly. Each of these sensors will also be able to monitor humidity and Co2 levels and adjust the amount of outside air automatically.

The media center should have its own dedicated split system with provisions for outside air. The system would have its own controls and not be reliant on other systems. This system will be stand alone. The IT closets should also have their own stand-alone dedicated split system capable of running down to 0 deg F.

### **Electrical**

The existing electrical system for Mead Elementary School is 277/480V, 3Φ 2000A. It has a 2000A main breaker installed in the switchgear, along with multiple other circuit breakers serving other panels throughout the building. Existing panelboards throughout the building are in good shape. Some panels are old, but they are functioning fine, the only reason any of the panels would need to be replaced is if many new circuits are added & there isn't enough spare capacity in the panels.

Power receptacles throughout the entire school consist of a combination of recessed and surface mounted duplex receptacles. The majority of the receptacles are in good condition but there are some which are abused & should be replaced at some point. Due to the need for new mechanical equipment, power will be needed to be run from the nearest panel to the device which has spare breaker slots. There is an existing generator & transfer switch serving parts of the school. Based on the size of the generator it is only serving certain parts of the building, but unsure if lighting is on the generator. The generator & ATS are nearing the end of their useful life, it would be recommended to replace both of them. There are transformers located throughout the building to drop the voltage from 277/480V to 120/208V, these are in decent condition & should only need to be replaced if they were to fail.

The interior lighting throughout the school consists of a combination of recessed 2'x4' fixtures, recessed 2'x2' fixtures, recessed downlights, surface mounted 2'x4' fixtures & utility fixtures. All lighting fixtures contain fluorescent lamps that appear to be T8, some of the fixtures might have T12 lamps in them. Fixtures that have T12 lamps should be replaced since those lamps aren't manufactured anymore, but it

would be recommended to replace all the lighting at some point with energy efficient LED fixtures to save money. Lighting fixtures are controlled via a variety of ways, there are single pole toggle switches, key switches & occupancy sensors/switches. Occupancy sensors are suggested for any areas that don't have them. Daylight harvesting sensors should also be thought of throughout the building since that will help to save energy as well. Exterior building fixtures consist of building mounted wallpacks & pole mounted fixtures for the parking areas. Few fixtures are LED with the majority consisting of fluorescent. The fixtures are in decent shape but nearing the end of their useful life & should be replaced with LED.

The emergency lighting system consists of twinhead emergency fixtures located throughout the building in spaces where egress lighting is needed. These existing fixtures are fluorescent & are nearing the end of their useful life. It is unknown if there are existing light fixtures wired to the generator, if not that would be the most effective way to cover emergency lighting, which would be recommended. If that route isn't taken it would be recommended to replace the existing twinhead fixtures & possibly add emergency battery packs to light fixtures. Existing exit signs throughout the building are simple universal mounted signs, these signs are located in all areas where exit signs are required by code. These exit signs are in decent condition & should only need to be replaced if they were to fail, or the entire lighting system is replaced. Multiple doors had a fire alarm manual pull station next to it but had no exit sign. If these doors are egress doors, then an exit sign is required to be installed at those doors.

The Conventional fire alarm system is manufactured by Cerberus Pyrotronics. The main fire alarm control panel/responder is in decent condition. The fire alarm system consists of manual pull stations, strobes, horn/strobes & smoke detectors. The majority of the devices located throughout the building are old, but in decent condition. It would be recommended to do a one for one replacement of all the fire alarm devices throughout the building at some point in the near future. Multiple rooms throughout the building are missing fire alarm horn/strobes or strobes, it would be recommended to install these devices in most rooms that don't currently have them. Some rooms had a horn, but no strobe device, these devices should be replaced in the same location with a horn/strobe device. Manual pull stations were located in areas with no exit door, these devices shouldn't be located there as it could be misleading to people on where to exit the building.

There is an existing master clock and speaker system located throughout the building & it is in good condition. Nothing needs to be done with this system unless it were to suddenly fail. The existing IT & security equipment throughout the building is in good condition. The only reason anything will need to be upgraded or changed with these systems is if more data devices are needed throughout the building, or if the school is looking to add more security devices around the building such as cameras.

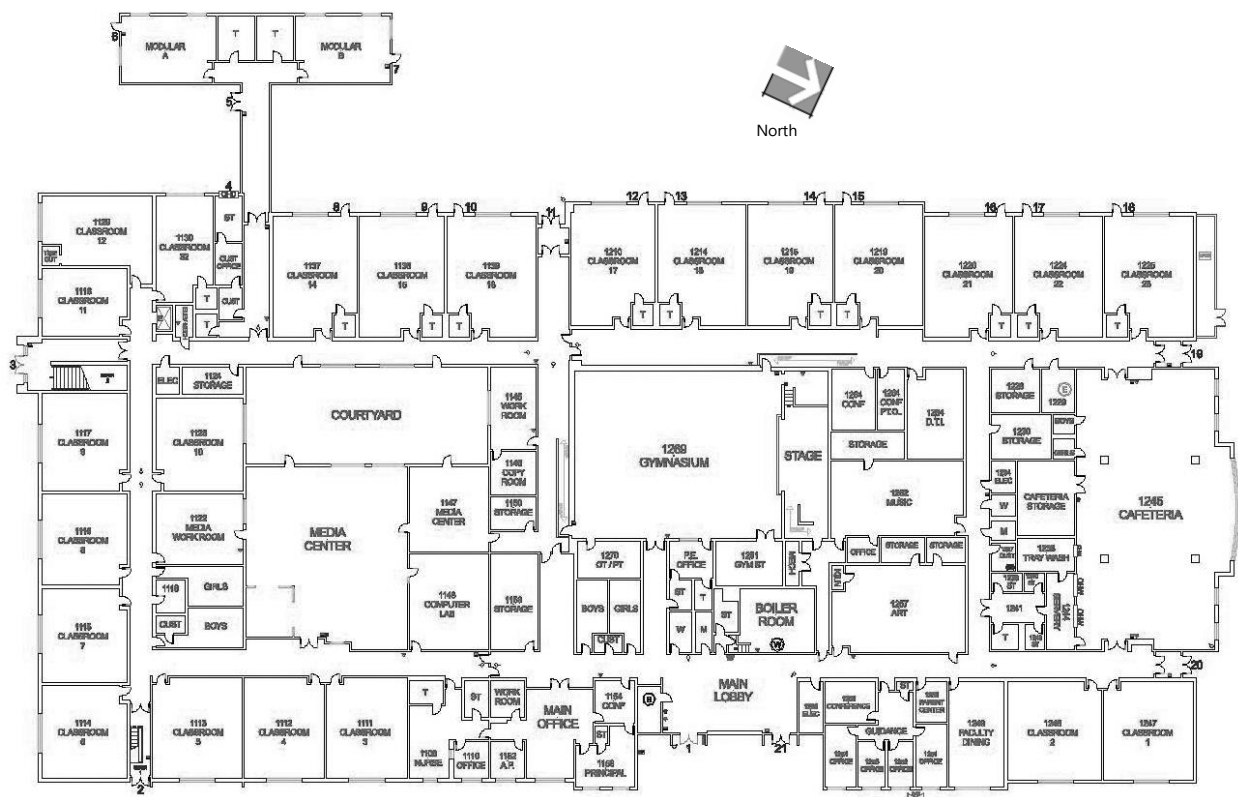


## Ansonia Prendergast Elementary School

### Architecture

#### Layout

Overall, Prendergast Elementary School is in good condition and has been well maintained based on the existing conditions and existing systems. The school was constructed in 1960 with a significant addition constructed in 1995 to the north and east. The building now totals at 87,052 square feet. The school is well organized configuration with two stories at the east. Classrooms are at the perimeter while larger spaces such as the media Center, Gymnasium, Cafeteria along with art and music in the center. The only drawback is that most of these spaces are windowless. The media Center has natural light through the courtyard. There are also two portable classrooms and restrooms to the west, constructed around 2010. Many classrooms have direct egress from the room. The entry is well defined and additional security measures have been retrofitted but it does lack a direct connection to the office.



#### Interior

The interior of the building is very well maintained. Most ceilings are 2x4 dropped acoustical ceiling tiles along with some 2x2. They all appear to be in good condition. Flooring throughout most of the facility are VCT and in good condition with limited areas of cracking. Some classrooms, the media center and offices have carpet which appear to be in good condition. There are also ceramic tile or new epoxy floor systems in the bathrooms. Rubber flooring is in good condition at the stairwells. The corridor wall consists of painted brick or block. Wood doors within painted metal frames are in good condition. The casework throughout most of the school is plastic laminate and in fair condition. are nearing the end of their useful life.



Limited ADA and code issues were noted at this facility. These items should be included in the long-term capital plan. The prep sink in the kitchen/prep areas is not ADA compliant. Toilet rooms throughout the school contain numerous violations of federal, building, and accessibility codes. Some handicap toilet stalls do not appear to have code complaint grab bars. Floor urinals are not compliant. Additionally, the courtyard does not have proper egress however the space is not used for student access. Overall the interior is in great shape.

### **Exterior**

On the exterior, the brick walls of the school are in fairly good condition, with a few areas of settling and spalling. The building is constructed with brick “veneer”, and air space and painted concrete masonry unit interior. The energy efficiency of the original construction is very low, and typical in the 1960s (“pre energy crisis”), and not one that is easily or readily corrected. However, the 1995 addition occupies over half the exterior perimeter. This construction likely contains insulation, improving the efficiency. Masonry is in pretty good condition with some limited areas of spalling and mildew. Overall, the mortar is in good condition with wall areas of around 10% in need of repointing.

When evaluating the energy efficiency of a building, it is known that nearly 25–40% of all heat energy is lost through windows. The windows were done in the 1995 project with double glazed aluminum systems. They appear in good condition. The roof was replaced in 2012.

### **Plumbing**

#### **Existing Systems**

A 3” water service enters the Boiler Room. Water service is fitted with two (2” to 2-1/2”) meters in parallel; no service backflow preventer was found. The meter installations are heat-traced to protect from freezing during very cold weather due to nearly constant introduction of combustion air to the boiler room.

Backflow protection on water supplies to Boiler Room non-potable systems were not apparent; however, cold water makeup to such systems were not easy to trace.

The building has a gas service and exterior gas meter, which serves dual fuel space heating boilers and a domestic water heater. The dual fuel boilers are scheduled to be replaced with high efficiency gas-fired condensing boilers during the summer of 2020, after which the oil storage tank will be emptied and removed, with oil transferred to other oil-burning school facilities.

One (ca. 2015) high efficiency PVI Conquest Aquaplex gas-fired condensing storage heater (400 MBH input/130-gallon tank) with thermostatic mixing valve and recirculation serves the entire building.

The Kitchen is a serving kitchen only; meals are provided from the large central kitchen at Ansonia High School. Plate and flatware are all disposable. A commercial dishwasher with booster heater cleans serving trays, utensils, bowls, etc. There is no pot sink or grease trap.

A wall-mounted hand sink appears to be ADA compliant, however, the prep table with integral prep and hand sinks is not accessible.

Roof and roof drain systems are in decent shape. Portions of the roof were replaced in 2014, and in those areas, separate primary and emergency drainage systems have been provided. Older roof portions have primary roof drain systems only; emergency roof drain systems will be added when these roof areas are replaced.

Few piping issues, including leaks and missing insulation, were observed during the visit. However, older domestic water pipe insulation should be tested for hazardous materials.

Plumbing fixtures uniformly appear to be of recent vintage and maintained in good working order. The toilets and urinals have manual flushometers; lavatories have manual faucets.

Fixture ADA compliance is good. Exceptions: Prep station in Kitchen and nurse's exam sink (compartment is too deep). Pipe protection is lacking on just a couple of accessible lavatories. Classroom sinks have compliant sink depths and faucets; curtains conceal the open space below fixture, but insulation of exposed piping below the fixture is lacking.

The Art Classroom has a sink fitted with solids interceptor on waste piping.

No anti-scald protection is provided at lavatories, in case of water heater thermostat failure.

There are no radon removal systems; testing (performed every few years) has not indicated actionable radon levels.

Confirmation is required that any waste from the (hydraulic) elevator's shaft/machine room has an oil interceptor, that waste from all floor drains is connected to sanitary, not storm, and that proper backflow prevention is provided for custodial sink faucets and cleaning agent feeds.

### **Proposed Systems**

It is recommended that temperature limiting devices be provided on handwashing sinks and lavatories as soon as possible for occupant protection.

Provide ANSI A117.1 (ADA) fixture compliance in the few areas not already made compliant.

Provide missing insulation on exposed piping at otherwise ADA-compliant lavatories, hand sinks and counter sinks.

## **Fire Protection**

### **Existing Systems**

A 6" fire service enters into the Sprinkler Room off the Main Vestibule. Backflow prevention device is a 6" double check valve assembly. Approximate static pressure: 40 psi.

Fire service entrance arrangement includes two alarm check valve (wet pipe) risers and a wall-mounted Storz-type fire department connection, facing Finney Street.

The building (except the portables) has automatic sprinkler systems throughout, installed in 1998. The systems were apparently sized per pipe schedule; no hydraulic data plates were located on the sprinkler risers.

The performance area associated with the gymnasium is less than 1000 square feet in area; therefore, a fire standpipe system is not required (and is not installed).

### **Proposed Systems**

Provide sprinkler protection for the portables building.

## **Mechanical**

### **Existing Systems**

In general, the mechanical systems serving this school are approximately 12-22 years old. The existing RTU's are DX cooling only. These units are getting close to the end of their useful life expectancy. There is a roof mounted chiller as well.

Space heating for the building is provided by a boiler plant that produces hot water. They are Smith Mills series 44 boilers and have outlived their useful life span. Both chilled water and hot water hydronic pumps are located in the boiler room. They are getting close to their end of useful life as well.

Each of the classrooms have cooling and heating provided by either floor mounted or ceiling mounted unit ventilators. They are a dual temperature piping system. General exhaust for classrooms is provided by exhaust fans in mechanical rooms via ductwork in corridor ceilings. Make-up air to the classrooms is provided via operable windows.

The existing Building Management System is outdated and needs to be replaced.

The portable classrooms are served by a roof mounted unit that does both heating and cooling. Each of the units has its own control. The units are original and should be replaced.

### **Proposed Systems**

The school should have all of the existing mechanical removed and replaced. New RTU's will provide ventilation air as well as the proper supply air for space heating and cooling. The RTU should be equipped with enthalpy wheels, have a VFD controlling the supply and exhaust fans, if so equipped. Air distribution in the space will be accomplished by conventional diffusers, grilles and VAV terminal boxes with hot water re-heat coils in them. A new chiller should be installed with modulating capability to

reduce energy costs as required. New pumps shall be installed, with VFD's, to modulate the flow of the pumps depending on the flow and pressure head required.

Toilet Room Exhaust: Each Toilet Room and Locker Room will be provided with exhaust as required by the Mechanical Code, and Energy Recovery Ventilators will be reviewed as an option.

Automatic Temperature Controls/Energy Management System: A Building Management System (BMS) will be provided for the facility to meet the facilities' requirements. Each zone will have a dedicated temperature sensor in which the occupants can adjust the temperature accordingly. Each of these sensors will also be able to monitor humidity and Co2 levels and adjust the amount of outside air automatically.

### **Electrical**

The existing electrical system for Prendergast Elementary School is 277/480V, 3Φ 800A. It has an 800A main breaker installed in the switchgear, along with multiple other circuit breakers serving other panels throughout the building. Existing panelboards throughout the building are in good condition. Some panels are old, but they are functioning fine, the only reason any of the panels would need to be replaced is if many new circuits are added & there isn't enough spare capacity in the panels.

Power receptacles throughout the entire school consist of a combination of recessed and surface mounted duplex receptacles. The majority of the receptacles are in good condition but there are some which are abused & should be replaced at some point. Due to the need for new mechanical equipment, power will be needed to be run from the nearest panel to the device which has spare breaker slots. There is an existing permanent generator & transfer switch installed at the building, as well as a feed for a portable generator. It is assumed the portable generator would be for other loads that aren't life safety. All the equipment for the generator at the school is in good condition & will not need to be replaced for a while, unless it were to fail. There are transformers located throughout the building to drop the voltage from 277/480V to 120/208V, these are in decent condition & should only need to be replaced if they were to fail. Most electrical rooms have ductwork routed above the panels which violates the current code. It would be recommended to reroute the ductwork so that it isn't in the dedicated panel space. If not, at the very least a drip pan should be installed above the panels.

The interior lighting throughout the school consists of a combination of recessed 2'x4' fixtures, recessed downlights, pendant hung indirect fixtures, stage lights, chain hung high bay fixtures for the gym & chain hung utility fixtures. All lighting fixtures contain fluorescent lamps that appear to be T8, some of the fixtures might have T12 lamps in them. Fixtures that have T12 lamps should be replaced since those lamps aren't manufactured anymore, but it would be recommended to replace all the lighting at some point with energy efficient LED fixtures to save money. Multiple light fixtures throughout the building had broken lenses, these lenses should be replaced in kind if the lighting isn't being upgraded to LED. Lighting fixtures are controlled via a variety of ways, there are single pole toggle switches, key switches & occupancy sensors/switches. Occupancy sensors are suggested for any areas that don't have them. Some rooms have occupancy sensors which aren't working correctly, these should be tested to see if they can be fixed. If they are broken, they should be replaced in kind. Daylight harvesting sensors should also be thought of throughout the building since that will help to save energy as well. Exterior building

fixtures consist of building mounted wallpacks & building mounted spotlights. These fixtures are fluorescent & in decent shape but nearing the end of their useful life & should be replaced with LED.

The emergency lighting system consists of twinhead emergency fixtures & integral emergency battery packs located throughout the building in spaces where egress lighting is needed. These existing fixtures are fluorescent & are nearing the end of their useful life. It is unknown if there are existing light fixtures wired to the generator, if not that would be the most effective way to cover emergency lighting, which would be recommended. If that route isn't taken it would be recommended to replace the existing twinhead fixtures & possibly add emergency battery packs to light fixtures. Emergency lighting should be tested throughout the building as there are several areas which don't appear to meet the minimum light levels required for egress. Existing exit signs throughout the building are simple universal mounted signs, these signs are located in all areas where exit signs are required by code. These exit signs are in decent condition & should only need to be replaced if they were to fail, or the entire lighting system is replaced. There are also exterior exit signs in the courtyard which are in poor condition & should be replaced immediately. Multiple doors had a fire alarm manual pull station next to it but had no exit sign. If these doors are egress doors, then an exit sign is required to be installed at those doors.

The Conventional fire alarm system is manufactured by Cerberus Pyrotronics. The main fire alarm control panel/responder is in decent condition. The fire alarm system consists of manual pull stations, strobes, horn/strobes & smoke detectors. The majority of the devices located throughout the building are old, but in decent condition. It would be recommended to do a one for one replacement of all the fire alarm devices throughout the building at some point in the near future. Multiple rooms throughout the building are missing fire alarm horn/strobes or strobes, it would be recommended to install these devices in most rooms that don't currently have them. Some rooms had a horn, but no strobe device, these devices should be replaced in the same location with a horn/strobe device. Manual pull stations were located in areas with no exit door, these devices shouldn't be located there as it could be misleading to people on where to exit the building.

There is an existing master clock and speaker system located throughout the building & it is in good condition. Nothing needs to be done with this system unless it were to suddenly fail. The existing IT & security equipment throughout the building is in good condition. The only reason anything will need to be upgraded or changed with these systems is if more data devices are needed throughout the building, or if the school is looking to add more security devices around the building such as cameras.

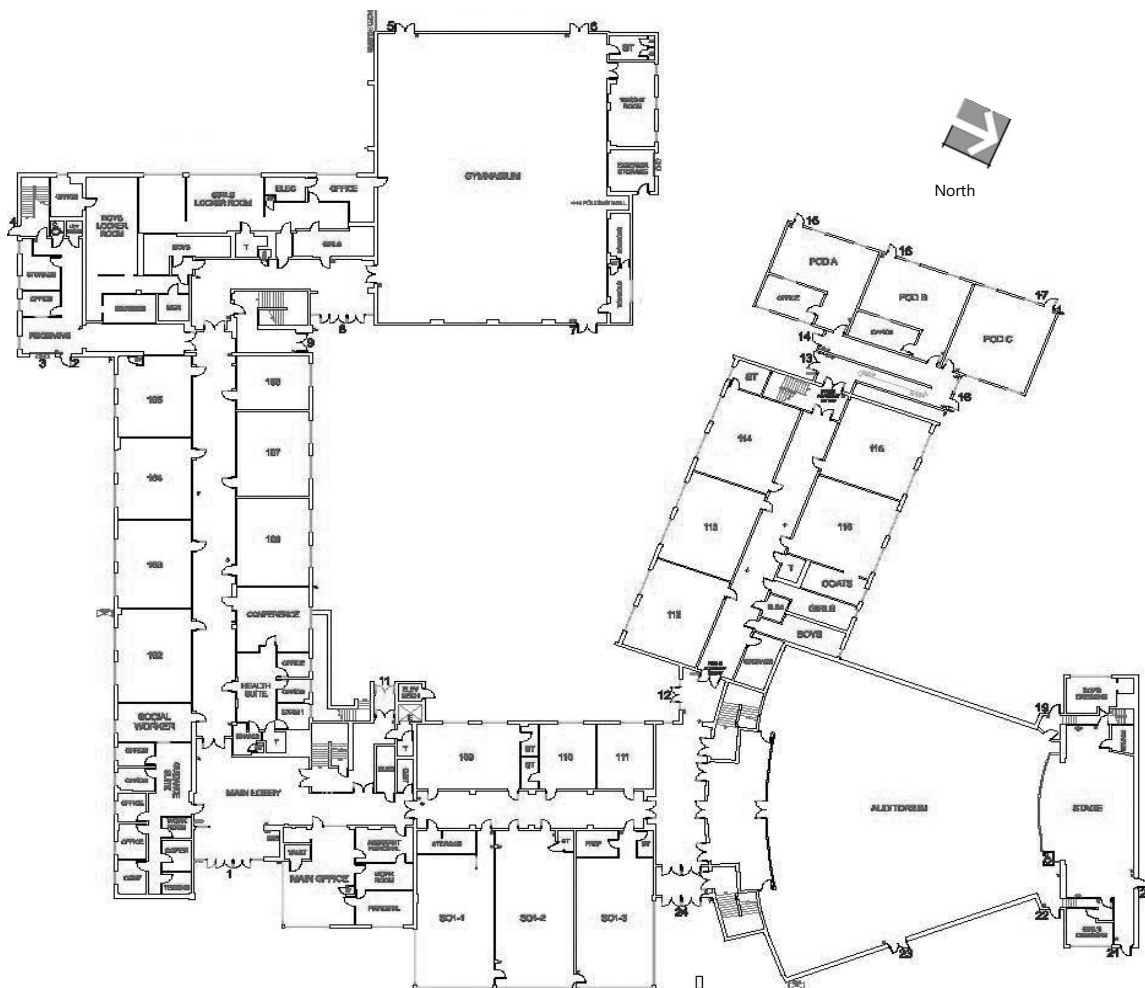
## Ansonia Middle School

### Architecture

#### Layout

Overall, Ansonia Middle School is in fair condition, and has been equally well maintained based on the existing conditions and existing systems. Ansonia Middle School was originally built in 1936 as the districts high school. In 1960 and again in 1980 additions were constructed. The 1996/2000 project included exterior wall modifications, interior reconfigurations, code upgrades, ceilings and lighting. Additionally, some windows, restrooms, cabinetry, flooring were included.

The original portion appears to be an L-shaped plan. Additions were then added on almost enclosing the courtyard. The gym is located on one end with the cafeteria nearby on the second floor. The L-shape plan is organized as a double loaded corridor of classrooms until the opposite end which has the large auditorium and a canted classroom addition. Additionally, there is a small basement with the boiler room and electrical services. A portable structure has been added to the rear, housing part of the Prekindergarten program. The main office is located off the main entrance lobby. The parking lot is remote from the front entry, at the rear.



## **Interior**

The interior of the building is fairly well maintained with many finishes beginning to wear. Most of the ceilings in classrooms and corridors consist of dropped acoustical ceiling tiles. Some areas are sagging or damaged. Others have stains from leaks. In certain places the tiles have been replaced and include a variety of types. The bathrooms, cafeteria, kitchen and corridors include some of the areas in need of replacement. Additionally, glue dubs were noted in the electrical area near cafeteria which could indicate more areas located above concealed spaces. These may contain asbestos and should be tested and abated as needed. There are damaged areas in the gymnasium decking and adjacent support spaces from roof leaks. Most of the flooring throughout the facility appears to be 12x12 VCT tiles and carpet. There is some epoxy, terrazzo and rubber. The VCT in some areas is aging. Some are cracking, broken or seams are separating. With many areas in need of repair, replacement should be considered soon. The gymnasium wood floor is also due for replacement soon. The walls are a variety of sheetrock, plaster and block. Many areas are in fine condition but aging with areas of peeling paint. Significant peeling in areas like the basement, electrical room and locker rooms ceilings may indicate water infiltration. This should be reviewed for any penetrations or issues. Numerous areas in the auditorium are damaged from water infiltration. Painting should be included in future plans.

Many doors throughout the facility are wood along with some hollow metal doors. Many of the metal doors need a coat of paint. These doors are set with in hollow metal frames and would benefit from painting too. The casework throughout the school is dated and lacks accessibility. Many of the plastic laminate casework is aging and needs to be replaced. Additionally, much of the furniture is nearing the end of its useful life and should be replaced. The gymnasium is in fair condition. Finishes are a bit in need of maintenance or replacement including the wall pads. The locker rooms are dilapidated, in need of renovations. Most toilet room's fixtures and finishes are nearing the end of their useful life. The auditorium seating is original and accessibility compliance needs to be reviewed further. Science labs are outdated and in need of renovations. Custodial closets have original mop sinks that are in disrepair. Many are leaking and rusting. The elevator needs significant work as just this year it broke down 6 times. It regularly breaks every year. The corridor lockers are original and shift within the alcoves which could possibly cause damage. The basement has flooding issues than need further investigation.

There were many American Disability Act (ADA) and building code compliance issues noted at this facility. This is a common occurrence given the age of the building. These items should be included in the long-term capital plan. Most classroom doors do not have the required push pull door clearances. Most casework does not have the required ADA knee spaces. Many toilet rooms do not meet the proper clearances and are not handicap accessible. The cafeteria serving area requires accessible stations and no separation exists between toilet and changing facilities. The Nurse suite does not have an accessible hand wash sink. The area of refuge signage not up to current codes where provided. The kiln room is not properly rated for separation from other spaces including door. The wood roof decking was observed outside the auditorium. The auditorium requires a standpipe and fire curtain/shutter for the needed separation. Overall the interior is in fair shape.

## **Exterior**

On the exterior, the brick walls of the school are fair condition, with many areas of settling and spalling. The original building is constructed with brick “veneer” and painted concrete masonry unit interior. The energy efficiency of this construction is very low, and typical in the 1930s (“pre energy crisis”), and not one that is easily or readily corrected. However, during the 1996/2000 renovations the classroom portions of the exterior walls have been modified and rebuilt with more energy effective construction system. Where the original brick is located, including the chimney, gym, auditorium and more, there is a lot of spalling and need of repointing. There is a lot of vegetation growing on the building which should be removed. The front portion that projects out with tan brick also needs repointing and power washing and sealing of the precast horizontal banding as it is covered in mildew. Extensive exterior work is required to maintain the lifespan of the masonry of this building.

When evaluating the energy efficiency of a building, it is known that nearly 25–40% of all heat energy is lost through windows. Most of the original windows have been replaced with insulated double-glazed systems. However, some older windows still exist and should be replaced. The ballast roof was replaced around 2012 and appears to be in fair condition, however numerous leaks occur in the building. The roof should be further investigated and possibly replaced. The soffit of the roof needs repainting. It was noted that the roof downspouts piped into the cast iron system below grade frequently backs up and causes significant leaks in the basement and vestibule near the auditorium. Many of these lines are likely clogged and should be repaired.

Additionally, the portable structure to the rear is about 10 years old. This structure is well maintained on the inside. On the exterior portions of the wood siding are deteriorating. These structures are not meant to be permanent and a more permanent space should be considered.

## **Plumbing**

### **Existing Systems**

A 4” water service enters the Boiler Room to a 2” service meter with bypass; service backflow prevention was not found. Meter appears recently installed. Water service entrance insulation requires replacement. .

Backflow protection on water supplies to Boiler Room non-potable systems were found.

The building has a gas service and exterior gas meter, which serves condensing space heating boilers, tankless domestic water heaters, kitchen cooking equipment; hood makeup air unit and many other rooftop units, and science labs. A fuel oil tank exists, but oil is not currently used.

The domestic water heating system was installed in 2017. Three Navien gas-fired condensing tankless water heaters (199 MBH input each) and (2) Bradford White 200 gallon storage tanks, with intertank/heater circulator, thermostatic mixing valve and building hot water recirculation serve the entire building.

The Kitchen is a full cooking kitchen, generating meals for this school only. Installations include an accessible hand sink; a three-bay pot sink; dishwasher with adjacent soiled dish sink; no accessible prep station with sink was found. Grease-laden waste is routed through a grease trap located in level below



near the Girls' toilet room. A couple of wall-mounted hand sinks appear to be ADA compliant except for lack of insulation on the exposed piping below.

Science labs have gas outlets with central normal and emergency control; emergency shower/face wash units, with floor drain below, but without tempering valve on supply.

The Art Classroom has a plaster trap at one sink.

Roof and roof drain systems are in decent shape; the roof was replaced in 2014. Aside from repairs required at a rooftop unit replacement, there have been no significant issues. The roofs are served by separate primary and emergency roof drain systems.

Piping insulation appears more dated/damaged than at other schools. Insulation is missing at some otherwise accessible hand sinks and lavatories.

Plumbing fixtures are well-maintained and in good working order. The toilets and urinals have manual flushometers; lavatories have manual faucets.

Fixture ADA compliance is less complete than at other schools. Examples: Prep station/sink in Kitchen, nurse's exam sink, classroom sink and cabinetry. Pipe protection is lacking on many accessible lavatories and sinks.

No anti-scald protection is provided at lavatories, in case of water heater thermostat failure.

There are no radon removal systems; testing (performed every few years) has not indicated actionable radon levels.

Confirmation is required that any waste from the (hydraulic) elevator's shaft/machine room has an oil interceptor, that waste from all floor drains is connected to sanitary, not storm, and that proper backflow prevention is provided for custodial sink faucets and cleaning agent feeds.

### **Proposed Systems**

Replace deteriorated or missing piping insulation on domestic water piping systems. Further investigation is required to determine the extent of replacement required.

It is recommended that temperature limiting devices be provided on handwashing sinks and lavatories as soon as possible for occupant protection.

Provide ANSI A117.1 (ADA) fixture compliance in areas not already made compliant.

Provide missing insulation on exposed piping at otherwise ADA-compliant lavatories, hand sinks and counter sinks.

## **Fire Protection**

### **Existing Systems**

A 6" fire service enters into the Basement Boiler Room. A 6" Febco Model 850 double check valve backflow preventer assembly is installed upstream of (2) wet pipe sprinkler risers and the fire protection system's fire department piping connection. The fire department connection itself is a 4" wall-mounted Storz type. Pressure gauges at the service entrance indicate a static pressure of about 90 psi.

The building (except for the portables classroom building) has automatic sprinkler systems throughout. The systems were apparently sized per pipe schedule; no hydraulic data plates were located on the sprinkler risers.

The stage area associated with the main auditorium has a fire standpipe system consisting of fire hose cabinets at left and right stage.

### **Proposed Systems**

Provide sprinkler protection for the portables classroom building.

## **Mechanical**

### **Existing Systems**

In general, the mechanical systems serving this school are approximately 2-4 years old with some exceptions. The units serving the auditorium are grade mounted HEATEX units with gas heat and a remote Dunham Bush air cooled condensing units for each grade mounted AHU. There are 2 of these units. These units are in good working condition. The exterior ductwork attached to these units are corroded as are the associated air-cooled condensing units. The interior ductwork appears to be in good shape.

Space heating for the building is provided by a boiler plant that produces hot water. The boilers are in the process of being replaced with new, more energy efficient boilers.

The existing RTU's are DX cooling with gas heat and they have been all replaced with-in the last 2-3 years.

The MUA unit for the kitchen is approximately 10 years old and appears to be in good working order.

The grade mounted chiller is approximately 5 years old and appears to be working order.

Each of the classrooms have cooling and heating provided by either floor mounted or ceiling mounted unit ventilators. They are a dual temperature piping system. General exhaust for classrooms is provided by exhaust fans in mechanical rooms via ductwork in corridor ceilings. Make-up air to the classrooms is provided via operable windows.

The boys and girls locker room and the associated shower are original to the project. The exhaust system for the areas are insufficient and should be replaced.

Chronic temperature control issues have been reported in the Media Center. The temperature in this area has been unacceptably high.

The existing Building Management System is outdated and needs to be replaced.

The existing boilers have been demolished and new boilers are slated to be installed prior to the start of the 2019 heating season.

### **Proposed Systems**

The classroom areas should have the unit ventilators removed and these classrooms will be served by the existing RTU which are equipped with DX cooling and gas heating. The existing Roof Top Units (RTU's) located on the roof will serve the spaces with duct chased provided to get the ducts down to the lower floor. The RTU will provide ventilation air as well as the proper supply air for space heating and cooling. The RTU should have a VFD controlling the supply and exhaust fans, if so equipped. Air distribution in the space will be accomplished by conventional diffusers, grilles and VAV terminal boxes with hot water re-heat coils in them.

Toilet/Locker Room Exhaust: Each Toilet Room and Locker Room will be provided with exhaust as required by the Mechanical Code, and Energy Recovery Ventilators will be reviewed as an option. Aluminum ductwork should be used in all of the shower areas.

Automatic Temperature Controls/Energy Management System: A Building Management System (BMS) will be provided for the facility to meet the facilities' requirements.

The media center should have its own dedicated split system with provisions for outside air. The system would have its own controls and not be reliant on other systems.

## **Electrical**

### **Interior Lighting**

The existing luminaires throughout the interior areas consist of a combination of fluorescent & LED fixtures. The fluorescent fixtures are comprised of recessed fixtures & hanging utility fixtures. There are some recessed LED fixtures along with utility type fixtures. Some fixtures are in decent shape, whereas others have chipped lenses, missing lenses or yellowing lenses. It would be recommended to replace all of the existing fixtures with LED fixtures, the newer LED fixtures wouldn't need to be replaced. Controls for lighting consisted of multiple different types of switches such as keyed, single pole toggle, 3-way, dimming & occupancy sensor. There were occupancy sensors located in rooms & corridors, although some rooms were missing occupancy sensors. For the most part the existing occupancy sensors were old & should be replaced. The light switches had a variety of conditions, some were perfectly fine, whereas others were in poor shape or broken. Switches which are broken or have been abused should be replaced.

### **Exterior Lighting**

The existing luminaires throughout the exterior area consist of simple wall mounted LED wallpacks, there are also several pole mounted fixtures located in the parking lot. All of the exterior fixtures appear

to be in decent condition, the fixtures at the very least should have their lenses cleaned to improve efficiency of the fixture. Depending on the age of the fixtures if the interior lighting is being replaced, then it might be reasonable to replace the exterior fixtures, or at the very least the ones in the worst condition.

### **Emergency Lighting**

The building has an existing emergency generator, it is assumed that life safety items such as emergency lighting is connected to the generator due to the circuiting shown in the emergency generator panel. This would be the ideal way for the emergency lighting to be wired. Existing exit signs were old & should be replaced, if they're currently not connected to the generator then that would be a good idea. Multiple exit signs will need to be added to the building, there are areas where code requires exit signs & none are located there.

### **Generator**

The building is set up to have 2 generators, 1 is an emergency/life safety generator, whereas the second generator is for standby power. The standby generator is a portable generator with a maximum rating of 400KW. An automatic transfer switch serves the portable generator which is a 600A transfer switch. The transfer switch serving the emergency/life safety generator is a 100A transfer switch. The automatic transfer switches are most likely in working condition, but they appear to be in poor condition & should be replaced.

### **Power**

Service for the building comes from an exterior padmounted utility transformer outside of the school. From there it enters the building & goes to the electrical room where there is a 200A, 480/277V, 3-phase switchgear as well as the utility meter. If renovations are to be done at the school the utility company will most likely require the meter to be relocated outside. Panels all throughout the building are fed from this switchgear. There are many panels throughout the building, some of the panels are for emergency or standby power from the generator, others are just serving general loads such as classroom receptacles or general-purpose lighting. The panels in the building are in various conditions, few panels are in good condition, whereas other panels are in poor condition. There are multiple panels throughout the building which have spray paint on the interior of the panel, missing panel schedules, or a variety of different types of circuit breakers. Some panels are most likely not UL rated anymore since the circuit breakers installed in the panels might not be UL listed as being compatible with that exact panelboard type. Panelboards were also found in areas that aren't the best practice to install them, such as in public spaces. Multiple panels were in public spaces & weren't secured or locked so that a child could easily get into the panel & cause harm to themselves or to others. In most electrical rooms/spaces there is mechanical ductwork running over the panels which according to today's code isn't acceptable. If renovations are to be done, then this would have to be reconciled.

There are a variety of receptacles that are found throughout the building which consist of 110/220V receptacles, GFCI & isolated ground. The condition these receptacles are in varies greatly, some are in good condition, others could use a touchup of paint, whereas some should just be replaced all together. There were many other electrical items such as raceways, junction boxes & disconnect switches found throughout the building. There many raceways or junction boxes which were completely missing cover

plates, exposing the wires inside of them, these will need new cover plates installed. Electrical items such as disconnect switches that were located in unfinished spaces, such as mechanical spaces are in bad condition & should be replaced.

In multiple areas there was an area of refuge set up. The area of refuge included the required illuminated signage as well as the two-way communication device. All of these items were in poor condition & had been abused, it should be replaced at some point in the near future.

A clock/speaker system was located throughout the building. For the most part the devices appeared to be in a good working condition, but they are old & nearing the end of their useful lifetime. It would be recommended at some point to replace the devices or to modernize the system.

There is a fair amount of security located specifically on the exterior of the building. The main security measures consist of dome cameras, these were found all around the exterior of the building. At the front entrance to the building there is a communications speaker device to allow communication from the exterior of the building & someone inside to allow them into the building. A Sonitrol keypad was located in the building, it would be assumed that there are some form of door/window contacts located throughout the building as well. The security cameras for the most part appeared to be in good working condition. The keypad appeared to be old, which could mean contacts are getting old as well which might need to be replaced soon.

#### **Voice / Data**

The telephone demarcation point was located in one of the utility/electrical spaces. From this room it serves the rest of the building. Wiring in this room is unacceptable, there are many wires & cables all bunched up, in a knot & not properly supported. Most of the wiring in this room should be redone. There are multiple other rooms throughout the building which are electrical/data related. These rooms consist of devices such as racks, switches, patch panels, UPS devices, assisted listening devices & voice evacuation panels. The majority of the equipment appears to be in good working condition & can be reused, if a major renovation is to be done it would be recommended to replace these devices.

#### **Fire Alarm**

Fire alarm devices were located throughout the building, in a lot of spaces as is required by code. There were multiple different devices such as horns/strobes, strobes, manual pull stations, smoke/heat detectors & magnetic hold open devices. The majority of these devices appear to be functioning & are nearing the end of their useful life cycle. It would be recommended to do a complete renovation of the existing fire alarm system with adding a new addressable system & replacing all of the existing devices with new addressable ones. There were multiple rooms which should have either a horn/strobe or strobe which didn't have one at all. Some rooms had a horn/strobe which based on the install location won't cover the entire room, devices such as these would need to be relocated, or another device would have to be added to that room. Smoke & heat detectors were missing from several areas which are required to have them by code. Manual pull stations in some areas were located further than 5' away from the egress door, which is a requirement by code, if renovation is done to the school these devices will need to be relocated closer to the door. Multiple rooms had a manual pull station located in them, which shouldn't have one in the first place, these devices should be removed so as to not confuse

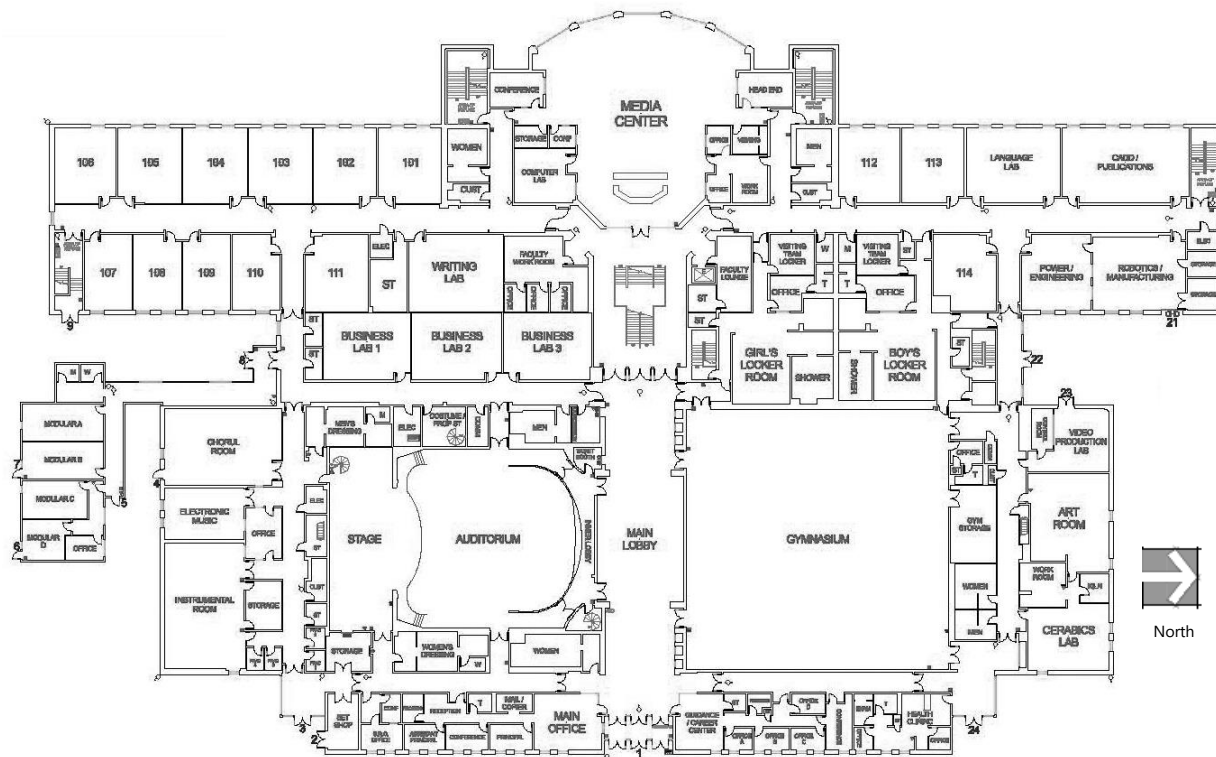
people of the egress path. It is not a code related issue but for added coverage of the school it would be recommended to add smoke detectors to the corridors.

## Ansonia High School

### Architecture

#### Layout

Overall, Ansonia High School is in good condition, and has been well maintained based on the existing conditions and existing systems. The school was constructed in 1998 totaling the square footage at 165,420. The main entrance is clearly identified at the center of the building. A wide main corridor acts as a lobby to support the gym and auditorium. It ends with a connection to the Media Center. This main circulation corridor is then intersected with a perpendicular corridor. Here most of the classrooms are located on all three floors. Below the Media Center is the cafeteria. This is a well-planned and organized building.



#### Interior

The interior of the building is well maintained with most finishes remaining in like new condition. Most ceilings are dropped 2x2 or 2x4 acoustical ceiling tiles. Flooring throughout most of the facility is 12x12 VCT. Limited cracks and settling were noted in a few locations. There is ceramic tile in bathrooms and tile in the main lobby/corridor. Offices, media center, auditorium and music rooms have carpeting. Most are in great condition with the auditorium beginning to age, and the gymnasium has wood flooring. All flooring appears in great condition.

The corridor and classroom walls consist of painted block of gypsum walls, all appear in good condition with limited painting needed. Wood doors in painted frames all appear to be in good condition. Casework throughout the school is original and in good condition. Limited areas of plastic laminate countertop are wearing, some nearing the end of their useful life. Furniture is original and in good condition however it is dated.

Given the age of this building there were not many ADA items noted at this facility. This is a common occurrence given the age of the building. These items should be included in the long-term capital plan. Most toilet rooms meet the proper clearances and are handicap accessible. Many of the required grab bars are also not installed. Some of the ramps in the music room does not have the required handrails. The locker rooms do not appear to have ADA lockers or benches. The interior of the women's dressing room has seen significant water damaged and should be repaired. Overall the interior is in good shape.

## **Exterior**

On the exterior, the brick walls of the school are in fair condition, with limited areas of settling and spalling. The building is constructed with block and brick "veneer" air space, insulation and painted concrete masonry unit interior. Some portions are growing mildew and should be cleaned, repointed and sealed. Overall, the mortar is in fair condition with wall areas of around 5% in need of repointing. The original windows are efficient double-glazed aluminum systems and all appear in good condition. The majority of the windows have been replaced from the originals. They are aluminum. Caulking typically begins wearing after 10 years and should be monitored. The roof is nearing the end of its useful life and is due for replacement soon. There is a large leak above the women's dressing room near the auditorium. It appears to occur where the hipped roof abuts the upper wall of the auditorium. Roofing is top priority at this building and should be addressed in the near future.

## **Plumbing**

### **Existing Systems**

A 6" water service enters the Basement Mechanical Room. Service meter(s) and backflow preventer were not found, indicating the existence of a meter pit.

Backflow protection on water supplies to Boiler Room non-potable systems were found.

The building has a gas service and exterior gas meter, which serves dual fuel space heating boilers, domestic water heaters, Kitchen cooking equipment and hood makeup air unit, and science labs. The dual fuel boilers fire oil only during extreme cold spells when natural gas demand is high and gas utility service pressures consequently lower. The facility's 10,000 gallon fuel oil tank also supplies a 198 kVa emergency generator via a 50 gallon day tank.

Two (ca. 1998) Lochinvar gas-fired Copper Fin water heaters (1800 MBH input each), with two vertical 750 gallon glass-lined storage tanks, thermostatic mixing valve and recirculation serve the entire building. One of the heaters has required frequent recent repairs.

The Kitchen is a full cooking kitchen, generating meals for this and many other schools. Installations include multiple hand sinks and prep stations with sinks, and three-bay pot sink. Grease-laden waste is routed through an exterior grease trap. A couple of wall-mounted hand sinks appear to be ADA compliant except for lack of insulation on the exposed piping below. No accessible prep station with sink was found.

Science labs have gas outlets with central control normal and emergency control; emergency shower/face wash units, with floor drain below, but without tempering valve on supply.



The Technical Education program includes manual and computer-aided drafting; wood shop with dust collection system and lavatory which appears accessible except for lack of insulation.

The Art suite has an accessible work station and sink; plaster trap on one sink, and large floor drain near the pottery wheel area.

The Consumer Science program includes: multiple electric ranges; a couple of smaller commercial style gas ranges with hoods and fire suppression systems; accessible sink and work stations.

The roof is original (1998), thin EPDM and in need of constant repair. One notable roof leak is above the Womens' Dressing Room near the stage. Much of the roof is covered with PV collectors, installed in 2010, with a 25 year power purchase agreement in place. A secondary (emergency) roof drainage system currently does not exist.

Few other piping issues, aside from missing insulation at otherwise accessible hand sinks and lavatories, were observed during the visit.

Plumbing fixtures uniformly appear to be of recent vintage and maintained in good working order. The toilets and urinals have manual flushometers; lavatories and multiple-user wash stations have manual faucets.

Fixture ADA compliance is good. Exceptions: Prep stations/sinks in Kitchen, and nurse's exam sink (no wheelchair access below). Pipe protection is lacking on a few accessible lavatories and sinks. Classroom sinks have compliant sink depths and faucets, and usually are fitted with cabinet -matching enclosures to conceal exposed piping below the fixture.

No anti-scald protection is provided at lavatories, in case of water heater thermostat failure.

There are no radon removal systems; testing (performed every few years) has not indicated actionable radon levels.

Confirmation is required that any waste from the (hydraulic) elevator's shaft/machine room has an oil interceptor, that waste from all floor drains is connected to sanitary, not storm, and that proper backflow prevention is provided for custodial sink faucets and cleaning agent feeds.

### **Proposed Systems**

Replace the Lochinvar Copper Fin water heaters, which at life expectancy (20 years).

In coordination with roof replacement, provide entirely separate secondary (emergency) roof drainage system.

It is recommended that temperature limiting devices be provided on handwashing sinks and lavatories as soon as possible for occupant protection.

Provide ANSI A117.1 (ADA) fixture compliance in the few areas not already made compliant.

Provide missing insulation on exposed piping at otherwise ADA-compliant lavatories, hand sinks and counter sinks.

## **Fire Protection**

### **Existing Systems**

An 8" fire service enters into the Basement Mechanical area, transitioning almost immediately to 6". A Peerless 50 HP fire pump, complete with controller/ATS, jockey pump/controller, separate 6" bypass, flowmeter, and test header branches; and fire pump test header with (3) 2-1/2" outlets (750 GPM), has an estimated pressure booting capacity of about 70 psi at 750 GPM. However, no specific fire pump performance rating data was found.

A 6" Febco Model 860 reduced pressure backflow preventer assembly is installed downstream of the pump and upstream of the (3) wet pipe sprinkler risers and the fire protection system's fire department piping connection. The fire department connection is a wall-mounted Storz type, located at the Basement level at the southwest corner of the building.

The building (except the portable classroom building installed in 1993) has automatic sprinkler systems throughout. The systems were apparently sized per pipe schedule; no hydraulic data plates were located on the sprinkler risers.

The stage area associated with the main auditorium has a fire standpipe system consisting of fire hose cabinets located in corridors outside left and right stage doors.

### **Proposed Systems**

Provide sprinkler protection for the portable classroom building.

## **Mechanical**

### **Existing Systems**

The existing mechanical systems have been installed in 1998 and are past their useful working expectancy. The school is using a dual temperature hydronic cooling and heating system. The existing mechanical RTU's have chilled water coils and hot water heating coils. The existing spaces are served by a combination of VAV boxes, cabinet unit heaters and fin-tube radiation. Space heating for the building is provided by a boiler plant that produces hot water and then pumped to the heating coils, cabinet unit heaters, fan coils, etc. Space cooling for the building is provided by an air cooled chiller that produces chilled water and then pumped to the cooling coils on the air handlers and roof top units as required. Each of the classrooms have a ducted vav box, ductwork and ceiling registers.

The boys and girls locker room and the associated shower are original to the project. The exhaust system for the areas are insufficient and should be replaced.

The existing Building Management System is outdated and needs to be replaced.

The boiler plant consists of (3) boilers in which 2 of them were replaced in 2015.

### **Proposed Systems**

The school should have all of the existing mechanical removed and replaced. New RTU's will provide ventilation air as well as the proper supply air for space heating and cooling. The RTU should be equipped with enthalpy wheels, have a VFD controlling the supply and exhaust fans, if so equipped. Air distribution in the space will be accomplished by conventional diffusers, grilles and VAV terminal boxes with hot water re-heat coils in them. A new chiller should be installed with modulating capability to reduce energy costs as required. New pumps shall be installed, with VFD's, to modulate the flow of the pumps depending on the flow and pressure head required.

Toilet/Locker Room Exhaust: Each Toilet Room and Locker Room will be provided with exhaust as required by the Mechanical Code, and Energy Recovery Ventilators will be reviewed as an option.

Automatic Temperature Controls/Energy Management System: A Building Management System (BMS) will be provided for the facility to meet the facilities' requirements. Each zone will have a dedicated temperature sensor in which the occupants can adjust the temperature accordingly. Each of these sensors will also be able to monitor humidity and Co2 levels and adjust the amount of outside air automatically.

The media center should have its own dedicated split system with provisions for outside air. The system would have its own controls and not be reliant on other systems. This system will be stand alone. The IT closets should also have their own stand-alone dedicated split system capable of running down to 0 deg F.

### **Electrical**

The existing electrical system for the High School is 277/480V, 3Φ 3000A. It has a 3000A main breaker installed in the switchgear, along with multiple other circuit breakers serving other panels throughout the building. Existing panelboards throughout the building are in great shape. The only reason any of the panels would need to be replaced is if many new circuits are added & there isn't enough spare capacity in the panels.

Power receptacles throughout the entire school consist of a combination of recessed and surface mounted duplex receptacles. The majority of the receptacles are in good condition but there are some which are abused & should be replaced at some point. There is an existing generator & transfer switch serving parts of the school. Based on the size of the generator it is only serving certain parts of the building, which appear to be the essential items needed for the building such as lighting & heating. The generator & ATS are in great condition & won't need to be replaced for a long time. There are transformers located throughout the building to drop the voltage from 277/480V to 120/208V, these are in decent condition & should only need to be replaced if they were to fail. The roof is covered with PV panels & inverters, which are in good condition. The roof is older than the panels though, when the roof gets replaced it wouldn't make sense to reinstall the existing PV panels on the roof, new ones should be installed in that instance. EPO switches in some rooms such as science classrooms were inaccessible due

to furniture blocking them, this furniture needs to be moved so that they are accessible. Several areas have receptacles within 6' of a sink which are not GFI, it should be confirmed that these receptacles are covered by another GFI receptacle wired before it, or by a GFI circuit breaker. There is area of refuges located throughout the building, these areas have the appropriate two-way communication device provided.

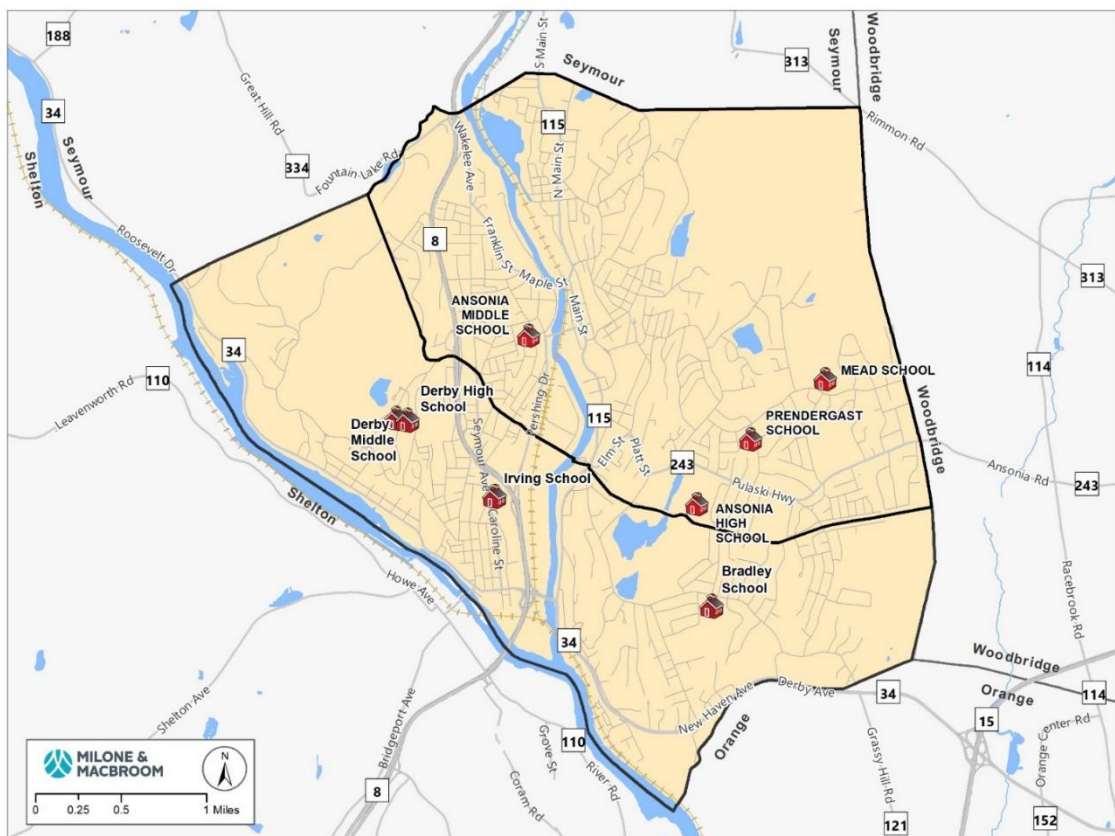
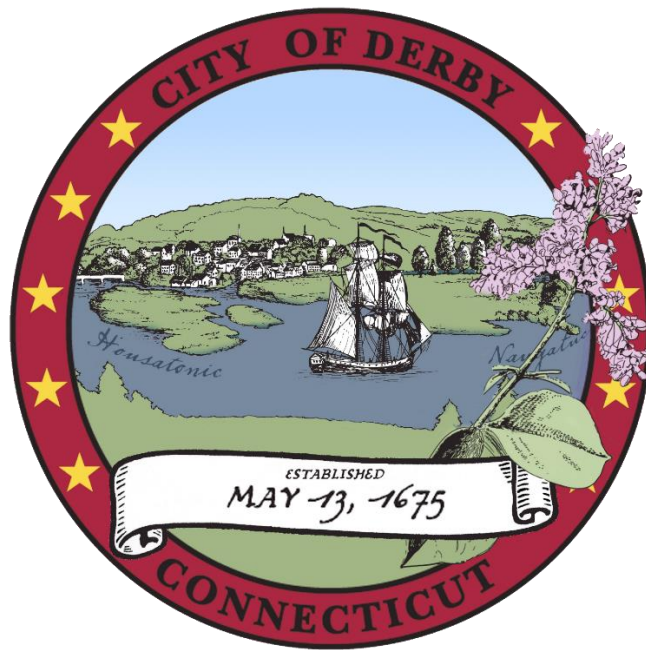
The interior lighting throughout the school consists of a combination of recessed 2'x4' fixtures, recessed 2'x2' fixtures, surface mounted wraparound fixtures, surface mounted linear fixtures, chain hung high bay fixtures for the gym, theatrical lighting & chain hung utility fixtures. Most fixtures throughout the building are LED, but there are multiple fixtures which are fluorescent or have LED replacement bulbs in the fixture, it would be recommended to replace all the lighting at some point with energy efficient LED fixtures to save money. Lighting fixtures are controlled via a variety of ways, there are single pole toggle switches, key switches & occupancy sensors/switches. Occupancy sensors are nearing the end of their useful life & should be replaced, they should also be added to any areas that don't have them. Daylight harvesting sensors should also be thought of throughout the building since that will help to save energy as well. Stairwell lighting in certain areas didn't appear to be adequate for egress & should be looked at. There doesn't appear to be aisle lighting in the auditorium, if the aisles are considered to be egress then lighting needs to cover this area, testing should be done to confirm this. Exterior building fixtures consist of building mounted wallpacks & pole mounted fixtures for the parking areas. These fixtures are in good condition & shouldn't need to be replaced.

The emergency lighting system consists of twinhead emergency fixtures located in certain areas, the majority of emergency lighting appears to be covered by the generator. It is unsure which fixtures are connected to the generator so testing would need to be done to confirm there is adequate lighting for egress. Existing exit signs throughout the building are simple universal mounted signs, these signs are located in most areas where exit signs are required by code, there were several areas that didn't have the required exit signs by code, exit signs should be added immediately to these areas. Most exit signs are in decent condition & should only need to be replaced if they were to fail. Several exit signs throughout the building were broken or not illuminated, these exit signs should be replaced. There was no illuminated area of refuge sign located outside of the area of refuge, signs should be installed in these locations.

The Conventional fire alarm system is manufactured by Cerberus Pyrotronics. The main fire alarm control panel/responder is in good condition. The fire alarm system consists of manual pull stations, strobes, horn/strobes, smoke & heat detectors. The majority of the devices located throughout the building are in good condition. In some areas such as the wood shop the devices have wood dust covering the devices which will impact the intensity of the strobe which might not now meet code, these devices should be cleaned. Multiple rooms throughout the building are missing fire alarm horn/strobes or strobes, it would be recommended to install these devices in most rooms that don't currently have them. Some rooms have a fire alarm horn/strobe that doesn't appear to cover the entire room, these areas should be tested to confirm this. If this is the case another device will need to be added to these rooms. Manual pull stations are located further than 5' away from an egress door in some locations, according to the current code this isn't acceptable & the device should be relocated to within 5'.

There is an existing master clock and speaker system located throughout the building & it is in good condition. Nothing needs to be done with this system unless it were to suddenly fail. The existing IT & security equipment throughout the building is in good condition. The only reason anything will need to be upgraded or changed with these systems is if more data devices are needed throughout the building, or if the school is looking to add more security devices around the building such as cameras.

## Site Analyses: Derby Schools



## Derby Bradley Elementary School

### Architecture

#### Layout

Overall, Bradley Elementary School is in good condition, and has been well maintained based on the existing conditions and existing systems. The school was constructed in 1960 with additions added in 1993 and 1992 totaling the square footage at 45,500. The 1963 addition include the east wing. The 1992 addition include a few classrooms at the end of the west wing along with the cafeteria. The building is well organized in a U-shaped plan. The office is located directly in front of the entrance with the gym and cafeteria located to the west side. The library, art and music are also located in this central location. Two wings double load classrooms along the corridors creating an open courtyard in the middle. All classrooms have direct egress from the room. The entry is well defined but lacks a direct connection to the office.



#### Interior

The interior of the building is well maintained with many finishes nearing the end of their useful life. Many ceilings are a spline ceiling along with some dropped acoustical ceiling tiles. The splines should be replaced. Flooring throughout most of the facility are 9x9 tiles which very likely contain asbestos. There is also some 12x12 VCT. There is ceramic tile in bathrooms with a variety of tile colors within one space likely due to partial replacements. While the flooring is well maintained there are numerous areas of

cracking and it is very dated. The corridor wall consists of glazed block and many areas need repointing. Doors and frames need painting or replacement. The casework throughout the school is original and dated, most are nearing the end of their useful life. Additionally, the furniture is also dated. The gymnasium has limited wall padding.

Many ADA and code issues were noted at this facility. This is a common occurrence given the age of the building. These items should be included in the long-term capital plan. Toilet rooms throughout the school contain numerous violations of federal, building, and accessibility codes. Most toilet rooms do not meet the proper clearances and are not handicap accessible. Floor urinals are not compliant. Many of the required grab bars are also not installed. Casework throughout the school is original and does not have the required ADA knee spaces or sinks spaces. Other items noted were non-ADA compliant drinking fountains, knee spaces, or furniture blocking sink knee spaces. The stage stairs do not have compliant handrail extensions. All door push and/or pull maneuvering clearances do not meet code. Egress doors have a greater than 1/2" transition to grade. Overall the interior is in fairly good shape.

### **Exterior**

On the exterior, the brick walls of the school are in fair condition, with a few areas of settling and spalling. The building is constructed with brick "veneer", and air space and painted concrete masonry unit interior. The energy efficiency of this construction is very low, and typical in the 1960s ("pre energy crisis"), and not one that is easily or readily corrected. Masonry spalling, growing mildew. In some areas it is cracking and shifting. It needs to be cleaned, repointed and sealed. Overall, the mortar is in fair condition with wall areas of around 30% in need of repointing.

When evaluating the energy efficiency of a building, it is known that nearly 25–40% of all heat energy is lost through windows. The windows appear to have been replaced with double glazed aluminum systems. The roof was replaced in 2014. There are some older doors and frames that could use replacement.

## **Plumbing**

### **Existing Systems**

A 4" water service enters at the Boiler Room; a static pressure of 70 psi was observed. Water service is fitted with a 2" meter, pressure reducing valve, and bypass.

Backflow protection on water supplies to Boiler Room non-potable systems are in place.

The building does not have a gas service. Space and domestic water heating is accomplished through oil-fired equipment.

One fairly new Bock 51EC oil-fired storage domestic water heater with thermostatic mixing valve serves the entire building; however hot water recirculation was not found

Kitchen installations include an Ansul hood fire suppression system apparently without power shutdown interlock, an automatic grease removal unit (AGRU) for the pot sink, and electric cooking equipment.



The roofs and roof drains appear to be in good shape; emergency roof drainage is provided in most areas by spilling over roof edge (no or low edge); there is a separately piped emergency roof drain system in the east classroom wing.

No piping issues, including leaks, were observed during the visit.

Plumbing fixtures are of varying vintage, but all appear to be well-maintained and in good working order. The toilets and urinals have manual flushometers; lavatories have manual (usually single lever) faucets.

Fixture ADA compliance is incomplete, with accessibility issues noted at staff toilets, nurse's suite, and one gang toilet bank. Some pipe protection is lacking on some otherwise accessible lavatories, hand sinks and counter sinks.

No anti-scald protection is provided at lavatories, in case of water heater thermostat failure.

A couple of radon removal systems were found.

Confirmation is required that waste from all floor drains is connected to sanitary, not storm, and that proper backflow prevention is provided for custodial sink faucets and cleaning agent feeds.

### **Proposed Systems**

Domestic hot water should be heat-traced and insulated to maintain temperature, reduce heat loss, and reduce water use.

It is recommended that temperature limiting devices be provided on handwashing sinks and lavatories as soon as possible for occupant protection, if not already extant.

Provide ANSI A117.1 (ADA) fixture compliance throughout the school.

Provide missing insulation on exposed piping at otherwise ADA-compliant lavatories, hand sinks and counter sinks.

## **Fire Protection**

### **Existing Systems**

A 6" fire service enters the Basement Boiler Room. Backflow prevention device is a 6" double check detector assembly.

Fire service entrance arrangement includes a 6" alarm check valve (wet pipe) riser and a fire department connection.

The building has automatic sprinkler systems throughout.

The wet sprinkler system has separate zones for basement and main level.

The performance area associated with the gymnasium is less than 600 square feet in area; therefore, a fire standpipe system is not required.

### **Proposed Systems**

None.

### **Mechanical**

The existing boiler plant consists of two (2) Smith cast iron boilers utilizing oil fired burners. These hot water boilers are piped to a single manifold to provide space heating. The boilers are original to the building and efficiency will not meet the new International Energy Conservation Code standards. Constant volume system pumps deliver hot water to air handling unit coils, unit heaters, cabinet heaters, convectors, and finned tube radiators. Main hot water piping system is routed above the corridor ceiling with heating terminal units. The boilers, flue piping, pumps and distribution system and piping are original to the building. While they are still functional, they have exceeded their useful life. Continued use of this equipment will result in increased operational and maintenance costs. Installation of new hot water boilers with multistage or modulating burners, installation of new hot water pumps with variable speed drives and inspection of existing piping and insulation to assess condition are recommended.

Combustion air provisions for the boiler room does not appear to be in accordance with current Code requirements. Providing a properly sized opening near the boiler room floor with motorized damper interlocked with the boilers is recommended.

The age of the underground fuel oil storage tank (UST) and the fuel oil piping are unknown. The date of installation should be verified and the requirements for tank testing and inspection should be reviewed.

The classrooms are heated using perimeter finned tube radiation. Toilet room, corridors and vestibules are provided with wall mounted convectors and cabinet unit heaters. Heat transfer efficiency is dependent on water quality and the attention to water treatment during the life of the system. It is recommended that interior of heating elements and facility piping be inspected by a specialist to determine if there may be remaining service life or if immediate attention is required. It is recommended to replace all original heating terminal as part of any future renovation project.

Classroom and office spaces ventilation is accomplished by exhaust fans and operable windows. This ventilation system relies on open windows and/or infiltration to provide adequate ventilation rates. Corridors are lacking ventilation. We recommend installing dedicated outdoor air units to provide 100% conditioned and dehumidified air to classrooms, office spaces and corridors.

Currently, there is no cooling in the building with the exception of several classrooms and office spaces with wall mounted air conditioners.

The kitchen is equipped with a exhaust hood and roof mounted exhaust fan. The installed height of discharge from the existing roof is not code compliant.

The media center ventilation is provided through operable windows, infiltration and a roof mounted exhaust fan. Cooling is provided using a ductless split air conditioning system consisting of wall mounted indoor units interconnected to a roof mounted condensing unit. The ventilation system is beyond its useful life. The ductless split system is nearing or at the end of its useful life. System replacement is recommended.

The arts and crafts classroom is served by a roof mounted heating and ventilating unit. This unit appears to be original to the building and is well past its useful life expectancy. The associated duct distribution system should be inspected and cleaned or replaced as part of the unit replacement.

The cafeteria is served by a roof mounted heating and ventilating unit with heating coil. This unit appears to be original to the building and is well past its useful life expectancy.

The gymnasium is served by air handling units suspended high from the structure and roof mounted relief fans, capable of delivering 100% outside air. The units appear to be original to the building and are well past the useful life expectancies.

For high occupancy areas like cafeteria and gymnasium, installation of new units with demand control ventilation is recommended.

### **Electrical**

The existing electrical system for Bradley Elementary School is 120/208V, 3 $\Phi$  600A. It has a 600A main breaker installed in the switchgear, along with multiple other circuit breakers serving other panels throughout the building. Existing panelboards throughout the building vary in condition. Some panels are in great shape, whereas some are old & should start being replaced soon. Some existing panels have circuit breaker slots which are improperly covered, which will need to be fixed according to code. Items were stored in front of the electrical panels in some spaces which isn't acceptable by code, these items should be moved to storage spaces. There were panels located in public spaces where kids can get access to them which weren't locked. Either these panels should be relocated, or they should be locked at all times.

Power receptacles throughout the entire school consist of a combination of recessed and surface mounted duplex receptacles. The majority of the receptacles are in good condition but there are some which are abused & should be replaced at some point. Due to the need for new mechanical equipment, power will be needed to be run from the nearest panel to the device which has spare breaker slots.

The interior lighting throughout the school consists of a combination of recessed 2'x4' fixtures, surface mounted linear utility fixtures with a wire cage, surface mounted linear fixtures with a prismatic lens, theatrical lighting for over the stage & surface mounted high bay fixtures for the gym. All lighting fixtures contain fluorescent lamps that appear to be T8, some of the fixtures might have T12 lamps in them. Fixtures that have T12 lamps should be replaced since those lamps aren't manufactured anymore, but it would be recommended to replace all the lighting at some point with energy efficient LED fixtures to save money. Lighting fixtures are controlled via a variety of ways, there are single pole toggle switches, key switches & occupancy sensors/switches. Occupancy sensors are suggested for any areas

that don't have them. Daylight harvesting sensors should also be thought of throughout the building since that will help to save energy as well. Exterior building fixtures consist of building mounted wallpacks, pole mounted fixtures for the play areas & surface mounted square fixtures for the main canopy. Few fixtures are LED with the majority consisting of fluorescent. The fixtures are in decent shape but nearing the end of their useful life & should be replaced with LED.

The emergency lighting system consists of many twinhead emergency fixtures located throughout the building in spaces where egress lighting is needed. These existing fixtures are fluorescent & are nearing the end of their useful life, which should be replaced with LED fixtures or integral battery packs to light fixtures, which would make sense to do if the lighting throughout the building gets upgraded to LED. The existing twinhead fixtures appear to be spaced too far apart to meet the required egress lighting by code, therefore more fixtures should be added to egress areas. Testing should be done to confirm this. Existing exit signs throughout the building are simple universal mounted signs, these signs are located in all areas where exit signs are required by code. These exit signs are in decent condition & should only need to be replaced if they were to fail, or the entire lighting system is replaced. Exit signs located in the gym don't appear to meet the current code since they don't appear to be illuminated. These exit signs should be replaced.

The Conventional fire alarm system is manufactured by Honeywell, the main fire alarm control panel/responder is in good condition. The fire alarm system consists of manual pull stations, strobes, horn/strobes & smoke detectors. The majority of the devices located throughout the building are old & nearing the end of their useful life. It would be recommended to do a one for one replacement of all the fire alarm devices throughout the building. There was no observed manual shutdown for the Ansul system located in the kitchen. By code a manual shutdown is required near the hood, therefore one needs to be installed.

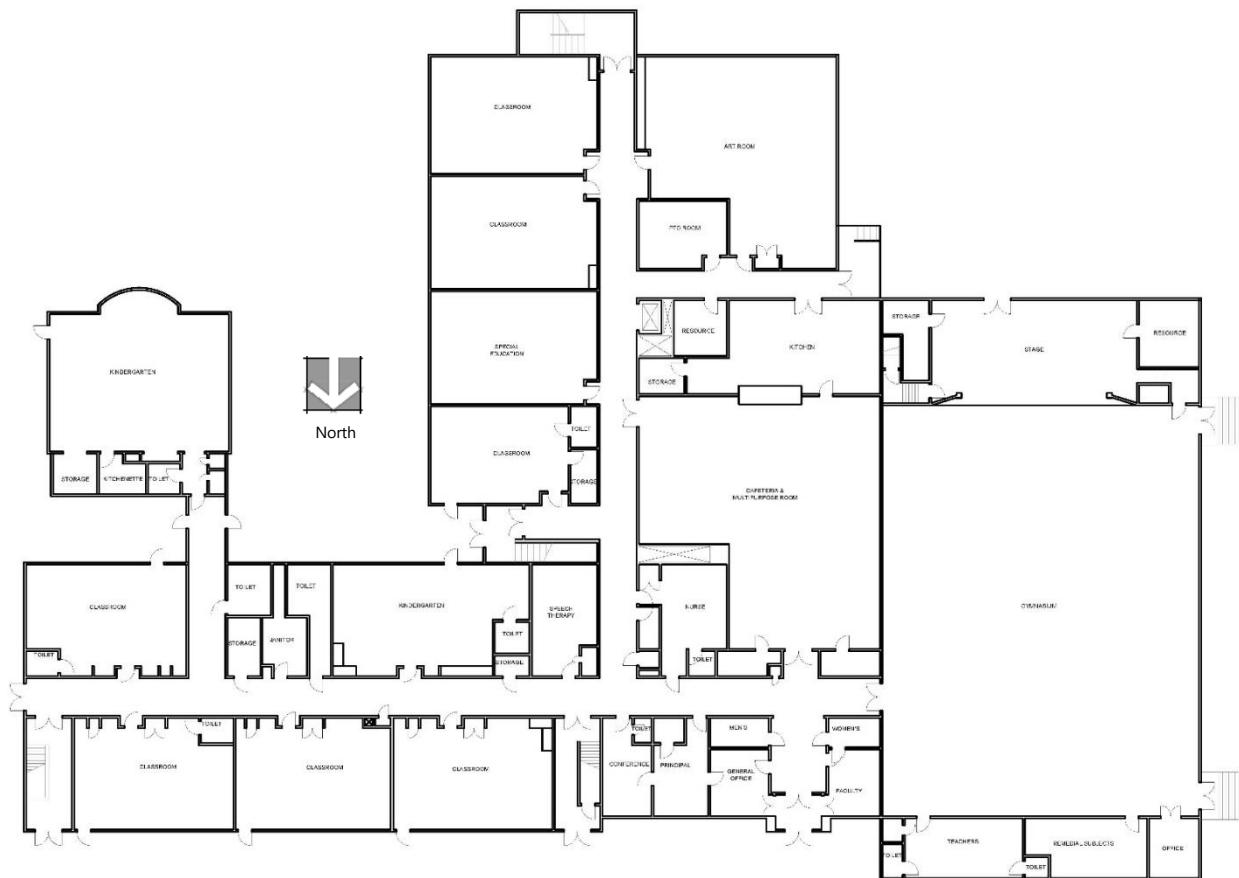
There is an existing master clock and speaker system located throughout the building & is nearing the end of its useful life. It is recommended to replace the entire system with a new one before the system fails. The existing IT & security equipment throughout the building is in good condition. The only reason anything will need to be upgraded or changed with these systems is if more data devices are needed throughout the building, or if the school is looking to add more security devices around the building such as cameras.

## Derby Irving Elementary School

### Architecture

#### Layout

Overall, Irving Elementary School is in good condition, and has been well maintained based on the existing conditions and existing systems. The school was constructed in 1953 with additions added in 1992 totaling the square footage at 59,100. The 1992 addition includes the rear wing at the south. The building is well organized in a T-shaped plan. The office is located directly in front at the east side of the entrance. The gym and cafeteria are in front and to the west side. The library, art and music are in various locations of the south wing on different levels. Two wings double load classrooms along the corridors creating an L-shape. Some classrooms have direct egress from the room. The entry is well defined.



#### Interior

The interior of the building is well maintained with many finishes nearing the end of their useful life. Most ceilings are dropped 2x4 acoustical ceiling tiles and are in fair condition. Some areas such as the stairs and restrooms could use replacement. Flooring throughout most of the facility are 9x9 tiles which very likely contain asbestos. There is also some 12x12 VCT. There is ceramic tile in bathrooms. While the flooring is well maintained there are areas of cracking and spreading seams. Additionally, some of the flooring is very dated. The corridor wall consists of glazed block which has some damaged areas. Other areas of block have some stepped cracks throughout the joints. Many doors and frames need painting, refinishing or replacement. Some of the casework throughout the school is original and dated, nearing

the end of their useful life. Additionally, the furniture is also dated. Many areas could use a fresh coat of paint and some areas also need rubber baseboard replacement.

Many ADA and code issues were noted at this facility. This is a common occurrence given the age of the building. These items should be included in the long-term capital plan. Toilet rooms throughout the school contain numerous violations of federal, building, and accessibility codes. Most toilet rooms do not meet the proper clearances and are not handicap accessible. Floor urinals are not compliant. Many of the required grab bars are also not installed. Some of the casework is original and does not have the required ADA knee spaces or sinks spaces. Other items noted were non-ADA compliant drinking fountains, knee spaces, or furniture blocking sink knee spaces. The stairs do not have compliant handrail extensions nor are there designated areas of refuge. All door push and/or pull maneuvering clearances do not meet code. A limited amount of door hardware is code complaint as some require twisting. Many egress doors have a greater than 1/2" transition to grade. Overall the interior is in fairly good shape.

### **Exterior**

On the exterior, the brick walls of the school are in fair condition, with a few areas of settling and spalling. The building is constructed with brick "veneer", and air space and painted concrete masonry unit interior. The energy efficiency of this construction is very low, and typical in the 1950s ("pre energy crisis"), and not one that is easily or readily corrected. Masonry spalling, growing mildew. In some areas it is cracking and shifting. It needs to be cleaned, repointed and sealed. Overall, the mortar is in fair condition with wall areas of around 30% in need of repointing. The foundation parging layer needs some repairs. At the front of the building the window lintels are rusting, and the sills have excess mildew growing. The lintels should be scraped, primed and painted. The sills should be power washed and sealed.

When evaluating the energy efficiency of a building, it is known that nearly 25–40% of all heat energy is lost through windows. The windows appear to have been replaced with double glazed aluminum systems. The roof was replaced in 2014. There are some older doors and frames that could use replacement.

## **Plumbing**

### **Existing Systems**

A 4" water service enters the basement; a static pressure of 65 psi was observed. Water service is fitted with a 2" meter with bypass; no service backflow preventer was found.

Backflow protection on water supplies to Boiler Room non-potable systems are in place.

The building has a gas service and a small interior gas meter (250 CFH) which serves the domestic water heater only. Space heating is accomplished through oil-fired equipment.

One fairly new Rheem G85-300A-1 gas-fired storage domestic water heater with thermostatic mixing valve and recirculation serves the entire building.

The recently renovated Kitchen includes an Ansul hood fire suppression system apparently without power shutdown interlock, an automatic grease removal unit (AGRU) for the pot sink, electric cooking equipment, and an ADA hand sink.

The roofs and roof drains appear to be in good shape; bifunctional roof drains (for primary and emergency drainage systems) were observed on the roof visible from the upper floor.

No piping issues, including leaks, were observed during the visit. However, older domestic water pipe insulation should be tested for hazardous materials.

Plumbing fixtures are of varying vintage, but all appear to be well-maintained and in good working order. The toilets and urinals have manual flushometers; lavatories have manual faucets.

Fixture ADA compliance is incomplete, with accessibility issues noted mostly in older portions of the building. Some pipe protection is lacking on some otherwise accessible lavatories, hand sinks and counter sinks.

No anti-scald protection is provided at lavatories, in case of water heater thermostat failure.

A couple of radon removal systems were found.

Confirmation is required that waste from the (hydraulic) elevator's shaft/machine room has an oil interceptor, that waste from all floor drains is connected to sanitary, not storm, and that proper backflow prevention is provided for custodial sink faucets and cleaning agent feeds.

### **Proposed Systems**

Test older domestic water pipe insulation, abate as necessary, and reinsulate with new pre-formed fiberglass pipe insulation.

It is recommended that temperature limiting devices be provided on handwashing sinks and lavatories as soon as possible for occupant protection, if not already extant.

Provide ANSI A117.1 (ADA) fixture compliance throughout the school.

Provide missing insulation on exposed piping at otherwise ADA-compliant lavatories, hand sinks and counter sinks.

## **Fire Protection**

### **Existing Systems**

A 6" fire service enters into the Gym Storage Room. Backflow prevention device is a 6" double check valve assembly.

Fire service entrance arrangement includes a 6" alarm check valve (wet pipe) riser and a wall-mounted siamese-type fire department connection, facing Seymour Avenue.

The building has automatic sprinkler systems throughout.

The wet sprinkler system has a separate zone for the basement, and multiple zones for upper levels.

The performance area associated with the gymnasium is less than 600 square feet in area; therefore, a fire standpipe system is not required.

A control valve on branch sprinkler piping to the elevator shaft and machine room could not be located.

### **Proposed Systems**

Provide a control valve with tamper switch on branch sprinkler piping to the elevator shaft and machine room; tie tamper switch into building fire alarm system.

### **Mechanical**

The existing boiler plant consists of two (2) Columbia oil fired boiler producing steam to heat the original building. The Boilers are at or near the end of their useful lives. Boiler life is greatly dependent on water quality and maintenance and it is recommended that the boilers be inspected by a company specializing in boiler repair to assess the actual condition and useful life remaining. The steam condensate receiver, which provides the boilers with proper return water, appears to be nearing or beyond its useful life.

An existing shell and tube heat exchanger convert steam to hot water to serves the 1993 addition. The shell and tube heat exchanger and associated pumping system are beyond their useful life.

The steam and steam condensate piping system is original to the building and at the end or beyond useful life. Removing all steam and steam condensate piping and converting the heating system from steam to hot water is recommended.

Combustion air provisions for the boiler room does not appear to be in accordance with current Code requirements. Providing a properly sized opening near the boiler room floor with motorized damper interlocked with the boilers is recommended.

The age of the underground fuel oil storage tank (UST) and the fuel oil piping are unknown. The date of installation should be verified and the requirements for tank testing and inspection should be reviewed.

The original building classrooms are heated using perimeter finned tube radiation. Toilet room, Corridors and vestibules are provided with wall mounted convectors and cabinet unit heaters. Heat transfer efficiency is dependent on water quality and the attention to water treatment during the life of the system. It is recommended that interior of heating elements and facility piping be inspected by a specialist to determine if there may be remaining service life or if immediate attention is required. It is recommended to replace all original heating terminal as part of any future renovation project.

Ventilation for original building classrooms is accomplished by exhaust fans and operable windows. This ventilation system relies on open windows and/or infiltration to provide adequate ventilation rates.



Corridors are lacking ventilation. We recommend installing dedicated outdoor air units to provide 100% conditioned and dehumidified air to classrooms and corridors.

The classrooms in the 1993 addition is served by a roof mounted heating and ventilating unit with heating coil. The roof top unit is beyond its useful life. The associated duct distribution system should be inspected and cleaned or replaced as part of the unit replacement. Currently, there is no cooling in the building with the exception of several classrooms with wall mounted air conditioners.

The kitchen is equipped with a Grease Exhaust Hood and roof mounted exhaust fan. The installed height of discharge from the existing roof is not code compliant.

The kindergarten classroom is served by a roof mounted heating and ventilating unit. We were not able to obtain a manufacturer's date for this unit however it appears to be very old and well past its useful life expectancy. The associated duct distribution system should be inspected and cleaned or replaced as part of the unit replacement.

The cafeteria is served by a roof mounted heating and ventilating unit with heating coil. We were not able to obtain a manufacturer's date for this unit however it appears to be very old and well past its useful life expectancy.

The gymnasium is served by an air handling unit and roof mounted relief fans, capable of delivering 100% outside air. The air handling unit is located in the adjacent fan room and the supply air ductwork is routed above the ceiling to diffusers. We were not able to access the fan room, however, the system appears to be part of the 1993 addition and is beyond its useful life.

For high occupancy areas like cafeteria and gymnasium, installation of new units with demand control ventilation is recommended.

## **Electrical**

The existing electrical system for Irving Elementary School is 120/208V, 3Φ 600A. It has a 600A main breaker installed in the switchgear, along with the MDP located in the same area to serve the other panelboards throughout the building. Existing panelboards throughout the building vary in condition. Some panels are in great shape, whereas some are old & should start being replaced soon. Some existing panels have circuit breaker slots which are improperly covered using sheet metal or duct tape. These panels, or the interior of the panel should be replaced ASAP to meet code. The existing utility meter is located indoors in the same room as the switchgear, if there are any renovations being done to the building the utility company may require that to be relocated to the exterior of the building. There are multiple areas where ductwork & pipes are running above the panels, according to current code it is unacceptable to have these items located in the dedicated panel space. The correct way to fix this would be to rework the ductwork & pipes so they aren't in that space, typically adding a drip pan above the panels in question will be acceptable by the local authorities.

Power receptacles throughout the entire school consist of a combination of recessed and surface mounted duplex receptacles. The majority of the receptacles are in good condition but there are some which are abused, typically in mechanical spaces, these should be replaced at some point soon. Due to the need for new mechanical equipment, power will be needed to be run from the nearest panel to the device which has spare breaker slots. There are existing disconnects located in the mechanical spaces which are in poor condition & should be replaced soon. Existing junction boxes typically found in mechanical spaces are open & should be covered so as to not have exposed wires.

The interior lighting throughout the school consists of a combination of recessed 2'x4' fixtures, recessed 2'x2' fixtures, surface mounted linear utility fixtures with a wire cage, pendant mounted linear fixtures & recessed high bay fixtures for the gym. All lighting fixtures contain fluorescent lamps that appear to be T8, some of the fixtures might have T12 lamps in them. Fixtures that have T12 lamps should be replaced since those lamps aren't manufactured anymore, but it would be recommended to replace all the lighting at some point with energy efficient LED fixtures to save money. Lighting fixtures are controlled via a variety of ways, there are single pole toggle switches, key switches & occupancy sensors/switches. Occupancy sensors are suggested for any areas that don't have them. Daylight harvesting sensors should also be thought of throughout the building since that will help to save energy as well. Exterior building fixtures consist of building mounted wallpacks & pole mounted fixtures for the play/parking areas. The majority of fixtures are fluorescent, they are in decent shape but nearing the end of their useful life & should be replaced with LED.

The emergency lighting system consists of many twinhead emergency fixtures located throughout the building in spaces where egress lighting is needed. These existing fixtures are fluorescent & are nearing the end of their useful life, which should be replaced with LED fixtures or integral battery packs to light fixtures. This would make sense to do if the lighting throughout the building gets upgraded to LED. The existing twinhead fixtures appear to be spaced too far apart to meet the required egress lighting by code, therefore more fixtures should be added to egress areas. Testing should be done to confirm this. Existing exit signs throughout the building are simple universal mounted signs, these signs are located in all areas where exit signs are required by code. In some areas there are exit signs with an integral twinhead emergency fixture. These exit signs are in decent condition & should only need to be replaced if they were to fail, or the entire lighting system is replaced.

The Conventional fire alarm system is manufactured by Honeywell, the main fire alarm control panel/responder is in good condition. The fire alarm system consists of manual pull stations, strobes, horn/strobes, smoke & heat detectors. These devices located throughout the building are old & nearing the end of their useful life. It would be recommended to do a one for one replacement of all the fire alarm devices throughout the building. There was no observed manual shutdown for the Ansul system located in the kitchen. By code a manual shutdown is required near the hood, therefore one needs to be installed. There is a manual pull station located on the stage next to a door which is closed off, this device should be removed & the junction box should be covered.

There is an existing master clock and speaker system located throughout the building & is in good shape. Nothing will need to be done with this system any time soon unless a device were to break. The existing IT & security equipment throughout the building is in good condition. The only reason anything will need

to be upgraded or changed with these systems is if more data devices are needed throughout the building, or if the school is looking to add more security devices around the building such as cameras.

## Architecture

Overall, Derby Middle School is in great condition, and has been well maintained based on the existing conditions and existing systems. The school was constructed in 2009 with a square footage of 72,311. The building is well organized in simple linear plan. The building is flanked by the gym to the north and the cafetorium to the south. The main entrance and associated office are located directly in front adjacent to the cafetorium. The building is stacked with each grade level organized on each floor. The lowest level is 6<sup>th</sup> grade while the main level is 7<sup>th</sup> grade and the upper level is 8<sup>th</sup> grade. The Media Center, art and music are in various locations. The Media Center is in the center on the upper level. Music classrooms are adjacent to the gymnasium while art is below on the lower level. The entry is well defined.



The interior of the building is well maintained with limited to no issues to report. Most ceilings are dropped 2x2 acoustical ceiling tiles and are in good condition. Limited places had some chipped corners which are just the beginning or typical wear and tear. Flooring throughout most of the facility are 12x12 VCT or carpet, all of which are in good condition. The corridor wall consists of painted block and metal lockers all of which are in good condition. While most walls are block, some are painted sheet rock and those too are in good condition. Doors and frames all appear in good condition. Casework and furniture throughout the school is original and in good condition. The elevator finishes were the only interior finishes noted for improvements which is a common occurrence in a 10-year-old elevator. It is also does not appear a high priority item.

148

## **Exterior**

On the exterior, the brick walls of the school are in great condition. A few minor areas of efflorescence were noted which is fairly common and an indication of some water infiltration. Additionally, the underside of the floor projections at the rear of the building have peeling paint. These areas should be scraped, primed and painted. Overall this building is in great conditions.

## **Plumbing**

### **Existing Systems**

The age of plumbing systems is in keeping with the building age (about 10 years old).

A 4" water service enters at the Boiler Room; a static pressure of 65 psi was observed. Water metering and backflow prevention were not found at the service entrance, likely indicating the existence of a water meter pit.

Backflow protection on water supplies to Boiler Room non-potable systems are in place.

Domestic water heating is through a central high-efficiency gas-fired 560 MBH input, 250 gallon storage domestic water heating plant. The plant has recirculation, a thermostatic mixing valve, and appears to be in excellent condition.

There are two parallel 5000 CFH gas meter installations. Gas serves space and domestic water heating equipment, cooking equipment and science labs (though this last-named service is currently not in use); science lab hoods have Ventor exhaust terminations.

Kitchen installations include an Ansul hood fire suppression system with fuel shutdown interlock, an automatic grease removal unit (AGRU) for the pot sink, and gas-fired cooking equipment.

Totally separate primary and emergency roof drain systems exist.

No piping issues, including leaks or missing insulation, were observed during the visit.

Plumbing fixtures appear to be excellent condition and working order. The toilets and urinals have manual flushometers; multi-user washfountains have sensor controls.

Fixture ADA compliance is good throughout the facility.

No anti-scald protection is provided at lavatories, in case of water heater thermostat failure.

Under-slab radon removal systems were found.

### **Proposed Systems**

It is recommended that temperature limiting devices be provided on handwashing sinks and lavatories as soon as possible for occupant protection, if not already extant.

## **Fire Protection**

### **Existing Systems**

A 6" fire service enters the Boiler Room. Backflow prevention was not found at the service entrance, likely indicating the existence of a water meter pit.

Fire service entrance arrangement includes a 4" alarm check valve (wet pipe) riser; a 2-1/2" dry pipe valve riser; and a siamese-type fire department connection.

The building has automatic sprinkler systems throughout.

The wet sprinkler system has a separate zone for each floor.

There is a platform (not a stage) provided as part of the Cafetorium.

### **Proposed Systems**

None.

## **Mechanical**

Middle school is a newer facility constructed in 2009. The building is provided with energy efficient heating, ventilation and cooling systems. The systems are in good condition and appear to be installed in accordance with applicable codes.

During the site visit, it was observed that the IT room in the lower level does not have thermal control. Providing a ductless split air conditioning system is recommended to meet the operating environment for IT equipment.

Existing kitchen exhaust system controller may need to be upgraded to provide demand control ventilation, as required by the current code.

## **Electrical**

The existing electrical system for the Middle School is 277/480V, 3Φ 1200A. It has a 1200A main breaker installed in the switchgear, along with multiple other circuit breakers serving other panels throughout the building. Existing panelboards throughout the building are in great condition. Some existing panels have circuit breaker slots which are improperly covered, which will need to be fixed according to code. Items were stored in front of the electrical panels in some spaces which isn't acceptable by code, these items should be moved to storage spaces. There are some locations where there is ductwork & pipes running over panels, this is unacceptable according to the current code since those are located in the dedicated panel space. The correct way to fix this issue would be to reroute the ductwork & pipes so that they aren't in the dedicated panel space. Typically, local authorities are fine with installing a drip pan over the panel instead.

Power receptacles throughout the entire school consist of a combination of recessed and surface mounted duplex receptacles. These receptacles are in good condition, the only reason anything would need to change is if teachers are complaining about a lack of receptacles in their room. Due to the need

for new mechanical equipment, power will be needed to be run from the nearest panel to the device which has spare breaker slots. Area of refuge spaces are set up throughout the building, these areas have the appropriate two-way communication device which is needed.

The interior lighting throughout the school consists of a combination of recessed 2'x2' fixtures, recessed 2'x4' fixtures, surface mounted decorative downlights, wall mounted indirect fixtures, surface mounted linear fixtures with a prismatic lens, pendant mounted utility fixtures, theatrical lighting & high bay pendant mounted fixtures. The majority of light fixtures in the building are LED, there are several areas, typically utility spaces which are fluorescent. It would be recommended to replace any fluorescent fixture with LED. Several fixtures are missing their associated lenses, new lenses should be installed for these fixtures. Lighting fixtures are controlled via a variety of ways, there are single pole toggle switches, key switches & occupancy sensors/switches. Occupancy sensors are suggested for any areas that don't have them. Exterior building fixtures consist of building mounted gooseneck fixtures & pole mounted fixtures for the parking areas. These fixtures are LED & are in great condition.

Since there is a generator serving the building the emergency lighting is provided via that generator. It is assumed that the appropriate light fixtures are connected to the generator to provide the needed light levels according to code. Testing would need to be done to ensure this. Existing exit signs throughout the building are simple universal mounted signs, these signs are located in all areas where exit signs are required by code. There is low proximity exit signs as well for assembly spaces which was required by code. These exit signs are in good condition & won't need to be replaced for a while. There is no illuminated signage for the area of refuge, which is required by the current code, this signage should be added.

The Conventional fire alarm system is manufactured by Honeywell, the main fire alarm control panel/responder is in good condition. The fire alarm system consists of manual pull stations, strobes, horn/strobes & smoke detectors. All the fire alarm devices throughout the building are in good condition.

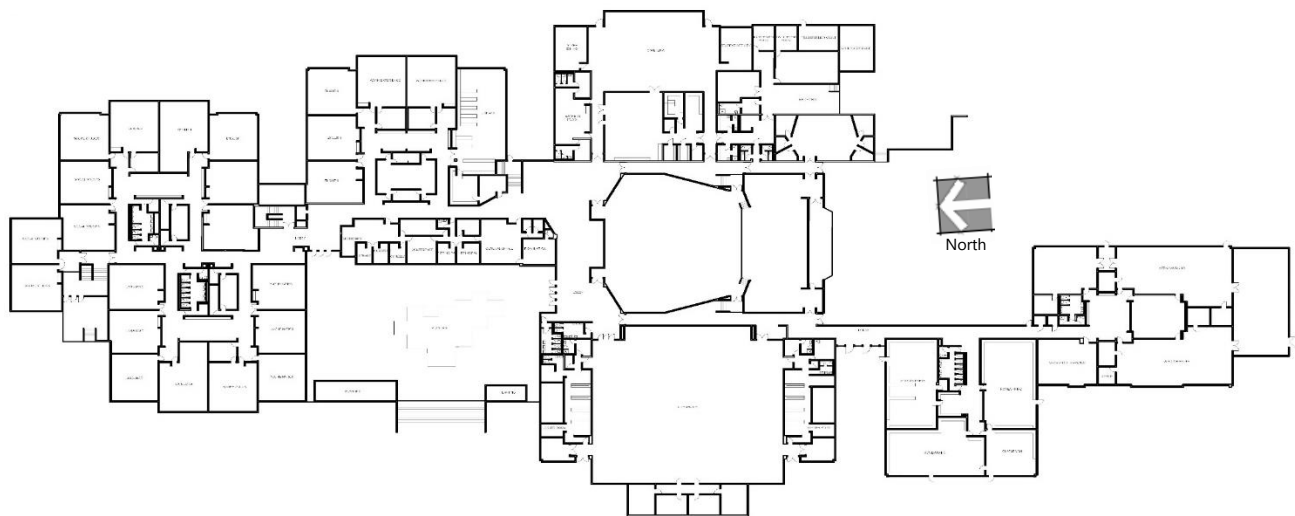
There is an existing PA system located throughout the building. This system is in good condition & nothing should need to be done to it, unless PA speakers are requested to be added to different areas of the building that don't currently have them. The existing IT & security equipment throughout the building is in good condition. The only reason anything will need to be upgraded or changed with these systems is if more data devices are needed throughout the building, or if the school is looking to add more security devices around the building such as cameras.

## Derby High School

### Architecture

#### Layout

Overall, Derby High School is in good condition, and has been well maintained based on the existing conditions and existing systems. The school was constructed in 1968 totaling the square footage at 144,350. Upon entering the plaza there are two entry points, one the lobby to the east which has become the recently new main entrance. The other is to the south, originally the main entrance, it is the gym and auditorium lobby. The building is well organized. The layout consists of classroom clusters organized into 3 at the north. This area consists of two floors. The southern portion of the building houses the cafeteria and associated spaces to the east while the gym is to the west. The auditorium sits between the two spaces. An additional wing with spaces for fitness, wood shop and preschool are located further to the south.



#### Interior

The interior of the building is well maintained with many finishes nearing the end of their useful life. Most ceilings are dropped 2x4 acoustical ceiling tiles which are nearing the end of their useful life. Many areas are sagging. Some areas such as the stairs and restrooms could use replacement. Flooring throughout most of the facility is terrazzo or 9x9 tiles which very likely contain asbestos. There is also limited amounts 12x12 VCT and wood flooring. There is ceramic tile in bathrooms. The terrazzo is in good condition. However, the wood flooring at the gymnasium and wood shop are nearing the end of their useful life. The asbestos floor tile should be abated and replaced. The corridor and classroom walls consist of brick or painted block, all appear in good condition with some painting needed. Doors and frames are worn with many in need of replacement or painting. Casework throughout the school is original and dated, nearing the end of their useful life. Additionally, the furniture is also dated. Spaces such as locker rooms and science rooms should be remodeled and upgraded to meet code.

Many ADA and code issues were noted at this facility. This is a common occurrence given the age of the building. These items should be included in the long-term capital plan. Toilet rooms throughout the school contain numerous violations of federal, building, and accessibility codes. Most toilet rooms do not meet the proper clearances and are not handicap accessible. Many of the required grab bars are



also not installed. Some of the casework is original and does not have the required ADA knee spaces or sinks spaces. Other items noted were non-ADA compliant drinking fountains, knee spaces, or furniture blocking sink knee spaces. The stairs do not have compliant handrail extensions nor are there designated areas of refuge. All door push and/or pull maneuvering clearances do not meet code. A limited amount of door hardware is code complaint as some require twisting. Many egress doors have a greater than 1/2" transition to grade. Overall the interior is in fairly good shape.

### **Exterior**

On the exterior, the brick walls of the school are in fair condition, with a few areas of settling and spalling. The building is constructed with brick "veneer", and air space and painted concrete masonry unit interior. The energy efficiency of this construction is very low, and typical in the 1960s ("pre energy crisis"), and not one that is easily or readily corrected. Masonry is spalling or needs repointing in limited areas. The slate panels need repointing as many of the joints have eroded away. Some areas should be cleaned, repointed and sealed. Overall, the mortar is in fair condition with wall areas of around 20% in need of repointing.

The original windows are a single layer of glazing, which is highly inefficient. The majority of the windows have been replaced from the originals. They are aluminum. However, there are some areas such as doors at stairs that are older and need replacement. It can be assumed that a great deal of energy is being lost through these openings. Due to the inefficiency and age of the window system, it is recommended they be replaced with insulated double or triple glazed systems which will reduce heating and cooling costs in these sections of the building. There are also some older doors and frames that could use replacement. The roof was replaced in 2014.

## **Mechanical**

### **Existing Systems**

### **Plumbing**

#### **Existing Systems**

A 6" water service enters at the Custodial/Loading Dock Area, routing through two parallel 2" meters. The meter discharges join into a single 3"-4" main for building domestic water distribution.

Domestic water heating is electric only, and there is no central domestic water heating plant. Instead, electric storage heaters are located near the fixtures/equipment they serve, the largest of which are two 500 gallon electric storage heaters which serve gym area showers. Hot water recirculation was not found for any of the domestic water heating systems. Storage domestic water heaters other than the 500 gallon systems are of recent vintage (2013, 2014, 2019) with a typical life expectancy of about 10 more years. The exact age of the 500 gallon systems could not be determined in the field, but their appearance

Lab drainage and vent piping appears to be glass.

Kitchen installations include an Ansul hood fire suppression system with fuel shutdown interlock, an automatic grease removal unit (AGRU) for the pot sink, and gas-fired cooking equipment. Natural gas is also supplied to science labs and the kitchen's makeup air unit.

Most roof drainage is achieved via perimeter gutters and leaders. When present, roof drains are in good shape; most emergency drainage is spillage over low or no-lip roof edges.

No sanitary or storm piping issues were observed during the visit. It was reported that exterior sanitary piping issues were experienced in the past but piping repair/replacement had resolved those issues. However, if further drainage issues develop, it is recommended that the pipes in the problem area(s) be scoped with a camera to determine the root cause of the issues.

Plumbing fixtures appear to be in working order and no major issues were observed although many fixtures are dated. The toilets and urinals have manual flushometers and lavatories have manual faucets, generally single lever type.

Fixture ADA compliance is limited primarily to gang toilet rooms. Some pipe protection is lacking on some otherwise accessible lavatories, hand sinks and counter sinks. No anti-scald protection is provided at lavatories, in case of water heater thermostat failure.

A couple of under-slab radon removal systems were found.

Confirmation is required that waste from the (hydraulic) elevator's shaft/machine room has an oil interceptor, that waste from all floor drains is connected to sanitary, not storm. and that proper backflow prevention is provided for custodial sink faucets and cleaning agent feeds.

### **Proposed Systems**

Under any major renovation/addition, the existing gas service, service meter(s) and service regulator(s) should be increased to accommodate additional gas-fired HVAC equipment and domestic water heating equipment. Estimated new gas load: 3000 MBH.

Under any major renovation/addition, new high efficiency gas-fired domestic water heating system(s) should be provided to replace the existing electric water heaters.

Under any major renovation/addition, domestic hot water recirculation or temperature maintenance will be required to comply with current code.

It is recommended that temperature limiting devices be provided on handwashing sinks and lavatories as soon as possible for occupant protection. Under any major renovation/addition, temperature limiting devices will be required on these fixtures to comply with current code.

Provide ANSI A117.1 (ADA) fixture compliance throughout the school, for all programs.

Provide missing insulation on exposed piping at otherwise ADA-compliant lavatories, hand sinks and counter sinks.

## **Fire Protection**

### **Existing Systems**

There are no automatic sprinkler systems, no limited area sprinkler systems fed from building domestic water systems, and no standpipes at the Stage. The lack of any sprinkler or standpipe systems is of concern.

### **Proposed Systems**

Certain existing spaces (large storage rooms, for example) are required to either have sprinkler protection fed from the building water supply, be fire-separated from the rest of the building, or be limited in square footage. Spaces of concern require review for compliance with the above requirements.

The Stage's area must be verified, as stages of 1000 SF or more require standpipes.

An automatic sprinkler system will be required by code for any addition.

Under any major renovation, provision of an automatic sprinkler system throughout the school is highly recommended.

## **Mechanical**

Classroom, office spaces and cafeteria heating and ventilation is provided using electric unit ventilators. A unit ventilator consists of electric resistance heating coil, fan assembly, dampers, filters and controls contained in a metal box. The unit ventilator mixes room air with outdoor air, brought directly into the cabinet through an outside wall grille, heats the air and delivers the heated air through a grille located on top of the cabinet. Although these ventilators appear to be delivering heated air to the space, the damper controls may not be working properly to deliver the required amount of outside air to the space. The unit ventilators are original to the building, and since they are well beyond their useful life, frequent repair and maintenance could be anticipated. Noise generated by fans in the unit ventilator is likely to exceed the maximum sound levels as prescribed by Connecticut Statute. Installation heating and ventilation system as described below, is recommended.

Multiple roof mounted dedicated outdoor air system (DOAS) will deliver the required 100% conditioned outside air to the spaces. These units will be equipped with supply and exhaust fans with VFDs, energy recovery wheel, modulating gas furnace and integrated refrigeration circuit with hot gas reheat for humidity control. A seismic spring curb with sound attenuating panels will be provided to support the unit. The supply and return ductwork will be provided with sound attenuators to reduce the sound from the unit and will be routed to ceiling diffusers and grilles.

Heating will be provided using the variable refrigerant flow (VRF) systems. The VRF systems will also have the capability to operate in cooling mode. Each VRF system will comprise of an outdoor heat pump unit, multiple indoor units, refrigerant piping, power and control cables, and remote and centralized controllers for operating the system. Indoor units, either above ceiling ducted type, ceiling suspended or

ceiling cassettes, will be provided to suit the requirements at individual locations and to meet the specific needs of each space. The high occupancy cafeteria will be roof mounted variable air volume unit with demand control ventilation.

Electric resistance heaters are provided in corridor and vestibules. These electric heaters are original to the building and have exceeded their useful life. No ventilation is provided in the corridor. Installation of new heating, cooling and ventilation system is recommended.

The auditorium, gymnasium, men's and women's locker rooms are served by constant volume air handling units and associated relief fans. Each air handling unit is equipped with supply fan, electric resistance heating element, capable of delivering 100% outside air to the space. Air handling unit are located in the mezzanine adjacent to the space being served. The units are original to the building and are well past the useful life expectancies.

For high occupancy areas like auditorium and gymnasium, installation of new units with variable air volume unit with demand control ventilation is recommended.

For locker rooms, installation of dedicated outdoor air system (DOAS) is recommended.

Automatic temperature control is presently accomplished with a pneumatic system and electronic system. The system is outdated, and should be replaced with an energy management system. The new control system will utilize direct digital control (DDC) components for individual systems, and all components within the building will be linked by a central controller. The central controller can be accessed from a central location.

### **Electrical**

The existing electrical system for the High School is 277/480V, 3 $\Phi$  4000A. It has a 4000A main breaker installed in the switchgear, along with multiple other circuit breakers serving other panels throughout the building. Existing panelboards throughout the building vary in condition. Some panels are in decent shape, whereas some are old & should start being replaced soon. Some existing panels have circuit breaker slots which are improperly covered, which will need to be fixed according to code. Items were stored in front of the electrical panels in some spaces which isn't acceptable by code, these items should be moved to storage spaces. The service for the building needs to be massive since the majority of the items in the building, specifically mechanical units are electric, therefore it results in a much higher utility bill than is necessary. The existing utility meter is located indoors in the same room as the switchgear, if renovations are to be done to the building the utility company will most likely require the meter to be moved to the exterior of the building. There are several plywood backboards which electrical equipment such as panels are mounted to. Most of these backboards have fire-retardant paint on them, but some are missing paint, these backboards in question should be repainted. The panels that are located in the auditorium are mounted higher than current code allows. It would be recommended to relocate these panels to a lower location so that they are accessible & meet the height restrictions of the current code.

Power receptacles throughout the entire school consist of a combination of recessed and surface mounted duplex receptacles. The majority of the receptacles are in good condition but there are some which are abused & should be replaced at some point. Due to the need for new mechanical equipment, power will be needed to be run from the nearest panel to the device which has spare breaker slots. Several areas have recessed or surface mounted junction boxes which are open. A cover should be installed over these junction boxes so the wires inside are not exposed. Since the building has a 277/480V service there are many transformers located throughout the building to drop the voltage down to 120/208V. The majority of these transformers are old & nearing the end of their useful life, these transformers should be replaced in kind soon. There are multiple electrical/mechanical spaces where there are wires & cabling that are hanging & aren't properly supported. Someone should go into these spaces to properly support these wires & cables, along with extending them as necessary. Area of refuge locations can be found throughout the building which have the appropriate 2-way communication device.

The interior lighting throughout the school consists of a combination of recessed 2'x2' fixtures, recessed 2'x4' fixtures, recessed linear fixtures, surface mounted open linear utility fixtures, surface mounted utility fixtures with a reflector, surface mounted vaportight fixtures, recessed downlights, theatrical lighting for over the stage & surface mounted high bay fixtures for the gym. All lighting fixtures contain fluorescent lamps that appear to be T8, some of the fixtures might have T12 lamps in them. Fixtures that have T12 lamps should be replaced since those lamps aren't manufactured anymore, but it would be recommended to replace all the lighting at some point with energy efficient LED fixtures to save money. Lighting fixtures are controlled via a variety of ways, there are single pole toggle switches, key switches & occupancy sensors/switches. Occupancy sensors are suggested for any areas that don't have them. Daylight harvesting sensors should also be thought of throughout the building since that will help to save energy as well. Exterior building fixtures consist of pole mounted fixtures for the parking areas & post top fixtures for the courtyard. The pole fixtures are LED & are in great condition, the post top fixtures appear to be fluorescent & are most likely nearing the end of their useful life. They should be replaced in kind with LED fixtures.

The emergency lighting system consists of a centralized battery system with butter dish fixtures located throughout the egress areas. There are twinhead fixtures located in several areas, but not many of them. The existing system is very old & obsolete, it should be replaced as soon as possible to prevent a complete failure & the loss of emergency lighting for the building. If existing light fixtures throughout the building are being replaced with LED fixtures, then those fixtures could have an integral emergency battery pack. If that route isn't chosen, then all of the existing fixtures & battery equipment should be replaced. Existing exit signs throughout the building are simple universal mounted signs, these signs are located in all areas where exit signs are required by code. These exit signs vary in condition, with some being poor & some are good. Some exit signs have an integral twinhead emergency fixture attached as well. Area of refuges are missing the appropriate illuminated sign, these should be added to meet current code.

The Conventional fire alarm system is manufactured by Honeywell, the main fire alarm control panel/responder is in fair condition. The fire alarm system consists of manual pull stations, strobes, horn/strobes, smoke & heat detectors. The majority of the devices located throughout the building are

old & nearing the end of their useful life. It would be recommended to do a one for one replacement of all the fire alarm devices throughout the building. There was no observed manual shutdown for the Ansul system located in the kitchen. By code a manual shutdown is required near the hood, therefore one needs to be installed. There is also no elevator recall smoke detectors, as well as a smoke & heat detector located in the elevator machine room. These devices are required by the current code & should be added.

There is an existing PA system located throughout the building & is nearing the end of its useful life. Some of the speakers in the building are damaged & abused, other areas are completely missing speakers because they've been removed. The existing speakers along with the associated equipment should be replaced in kind. The existing IT & security equipment throughout the building is in good condition. The only reason anything will need to be upgraded or changed with these systems is if more data devices are needed throughout the building, or if the school is looking to add more security devices around the building such as cameras.

## Appendix E: Financial Analyses

### Savings and/or Spending by Category:

	Status Quo	9-12 Regional	6-12 Regional	PK-12 Regional (3 Elementary Schools)	PK-12 Regional (4 Elementary Schools)
Central office administration	-	\$(720,000)	\$(720,000)	\$(720,000)	\$(720,000)
Other district-wide staff	-	-	-	-	-
School-based administrators	-	\$(270,000)	\$(380,000)	\$(380,000)	\$(510,000)
School staff salaries & benefits (contract change)	-	\$(200,000)	\$(300,000)	\$(550,000)	\$(550,000)
Staffing changes (teachers)	-	-	-	-	-
Staffing changes (other)	-	-	-	-	-
School utilities	-	\$(130,000)	\$(380,000)	\$(380,000)	\$(700,000)
Economies of scale at schools	-	\$(50,000)	\$(80,000)	\$(130,000)	\$(130,000)
Transportation (In-district)	-	-	-	-	-
Economies of scale at district	-	\$(30,000)	\$(70,000)	\$(140,000)	\$(140,000)
Athletics	-	-	-	-	-
Non-Special education tuition	-	-	-	-	-
Special education in district costs	-	\$(40,000)	\$(90,000)	\$(190,000)	\$(190,000)
Special education out of district costs	-	-	-	-	-
Overall	-	\$(1,740,000)	\$(1,850,000)	\$(2,320,000)	\$(2,760,000)

**Savings and/or Spending by Specific Category:**

	Status Quo	9-12 Regional	6-12 Regional	PK-12 Regional (3 Elementary Schools)	PK-12 Regional (4 Elementary Schools)
Central office administration	-	\$(720,000)	\$(720,000)	\$(720,000)	\$(720,000)
Other district-wide staff	-	-	-	-	-
High school administration	-	\$(270,000)	\$(270,000)	\$(270,000)	\$(270,000)
High school staff salaries & benefits (contract change)	-	\$(200,000)	\$(200,000)	\$(200,000)	\$(200,000)
High school staffing changes (teachers)	-	-	-	-	-
High school staffing changes (other)	-	-	-	-	-
High school utilities	-	\$(130,000)	\$(130,000)	\$(130,000)	\$(130,000)
Economies of scale at high school	-	\$(50,000)	\$(50,000)	\$(50,000)	\$(50,000)
Middle school administration	-	-	\$(110,000)	\$(110,000)	\$(110,000)
Middle school staff salaries & benefits (contract change)	-	-	\$(100,000)	\$(100,000)	\$(100,000)
Middle school staffing changes (teachers)	-	-	\$710,000	\$710,000	\$710,000
Middle school staffing changes (other)	-	-	\$(120,000)	\$(120,000)	\$(120,000)
Middle school utilities	-	-	\$(250,000)	\$(250,000)	\$(250,000)
Economies of scale at middle school	-	-	\$(30,000)	\$(30,000)	\$(30,000)
Elementary school administration	-	-	-	-	\$(130,000)
Elementary school staff salaries & benefits (contract change)	-	-	-	\$(250,000)	\$(250,000)
Elementary school staffing changes (teachers)	-	-	\$(710,000)	\$(710,000)	\$(710,000)



<b>Elementary school staffing changes (other)</b>	-	-	\$120,000	\$120,000	\$120,000
<b>Elementary school utilities</b>	-	-	-	-	\$(310,000)
<b>Economies of scale at elementary schools</b>	-	-	-	\$(50,000)	\$(50,000)
<b>Transportation (In-district)</b>	--	-	-	-	-
<b>Economies of scale at district</b>	-	\$(30,000)	\$(70,000)	\$(140,000)	\$(140,000)
<b>Athletics</b>	-	-	-	-	-
<b>Non-Special education tuition</b>	-	-	-	-	-
<b>Special education in district costs</b>	-	\$(40,000)	\$(90,000)	\$(190,000)	\$(190,000)
<b>Special education out of district costs</b>	-	-	-	-	-
<b>Overall</b>	-	<b>\$(1,740,000)</b>	<b>\$(1,850,000)</b>	<b>\$(2,320,000)</b>	<b>\$(2,760,000)</b>

**Instructional Staffing Projections (2018-19 through 2024-25):**

		2018-19	2019-20	2020-21	2021-22*	2022-23	2023-24	2024-25
<b>Ansonia</b>	General Education Teachers	146.5	146	144	146	146	147	148
	General Education Other	14.3	14.5	14.5	14.6	14.7	14.7	14.7
	Special Education Certified	41.2	41.4	41.6	42.1	42.1	42.1	42.3
	Special Education Non-certified	19.35	19.6	19.6	19.8	19.9	19.9	19.9
	<b>All</b>	<b>221.35</b>	<b>221.5</b>	<b>219.7</b>	<b>222.5</b>	<b>222.7</b>	<b>223.7</b>	<b>224.9</b>
<b>Derby</b>	General Education Teachers	103	102	98	96	93	93	89
	General Education Other	2	2	2	2	2	2	1.9
	Special Education Certified	29	28.4	27.4	26.8	26	25.7	24.6
	Special Education Non-certified	0	0	0	0	0	0	0
	<b>All</b>	<b>134</b>	<b>132.4</b>	<b>127.4</b>	<b>124.8</b>	<b>121</b>	<b>120.7</b>	<b>115.5</b>
<b>PK-12 Regional District</b>	General Education Teachers	249.5	248	242	245	242	241	238
	General Education Other	16.3	16.5	16.5	15.6	15.5	15.3	15.4
	Special Education Certified	70.2	69.8	69	68.9	67.9	67.5	67
	Special Education Non-certified	19.35	19.6	19.6	18.8	18.6	18.5	18.5
	<b>All</b>	<b>355.35</b>	<b>353.9</b>	<b>347.1</b>	<b>348.3</b>	<b>344</b>	<b>342.3</b>	<b>338.7</b>

\*2021-22 is year regionalization is assumed in this projection.

Note: General Education Teachers includes Alliance staff, Title I teachers, Title II teachers, and smart start teachers. General Education Other includes aides, non-clerical staff, and non-certified Alliance staff. Special Education Certified includes special education teachers, IDEA teachers,

school psychologists, BCBA's, social workers, guidance counselors, and nurses. Special Education Non-certified includes aides, paraprofessionals, and non-certified staff.

**Ansonia Local Expenditure Projections (2018-19 through 2024-25):**

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
<b>Central office &amp; district wide staff</b>	\$1,445,892.15	\$1,480,858.62	\$1,516,670.70	\$1,553,348.83	\$1,590,913.96	\$1,629,387.54	\$1,668,791.53
<b>High school administration</b>	\$683,036.90	\$699,555.00	\$716,472.56	\$733,799.24	\$751,544.94	\$769,719.79	\$788,334.17
<b>High school instructional staff</b>	\$4,421,709.10	\$4,262,250.07	\$3,985,203.81	\$4,169,901.32	\$4,084,656.32	\$4,162,797.57	\$4,248,042.57
<b>Other high school staff</b>	\$1,325,139.31	\$1,357,185.58	\$1,390,006.83	\$1,423,621.80	\$1,458,049.70	\$1,493,310.18	\$1,529,423.38
<b>High school utilities</b>	\$410,071.50	\$ 419,988.39	\$430,145.11	\$440,547.44	\$451,201.34	\$462,112.89	\$473,288.31
<b>Other high school costs</b>	\$342,483.00	\$350,765.38	\$359,248.05	\$367,935.86	\$376,833.77	\$385,946.86	\$395,280.33
<b>Middle school administration</b>	\$241,280.00	\$247,114.95	\$253,091.01	\$259,211.59	\$265,480.19	\$271,900.38	\$278,475.83
<b>Middle school instructional staff</b>	\$2,706,086.53	\$2,983,670.38	\$3,093,162.87	\$2,997,356.94	\$2,997,356.94	\$3,086,319.59	\$3,113,692.72
<b>Other middle school staff</b>	\$591,024.04	\$605,316.96	\$619,955.53	\$634,948.12	\$650,303.27	\$666,029.76	\$682,136.57
<b>Middle school utilities</b>	\$332,705.28	\$340,751.19	\$348,991.69	\$357,431.46	\$366,075.34	\$374,928.26	\$383,995.27
<b>Other middle school costs</b>	\$120,992.00	\$123,917.99	\$126,914.74	\$129,983.96	\$133,127.40	\$136,346.86	\$139,644.18
<b>Elementary school administration</b>	\$385,559.98	\$394,884.10	\$404,433.71	\$414,214.26	\$424,231.33	\$434,490.65	\$444,998.08
<b>Elementary school instructional staff</b>	\$6,677,640.27	\$6,929,031.80	\$6,961,140.38	\$7,063,887.84	\$7,153,791.86	\$7,063,887.84	\$7,038,200.97
<b>Other elementary school staff</b>	\$712,914.87	\$730,155.52	\$747,813.10	\$765,897.70	\$784,419.65	\$803,389.52	\$822,818.14
<b>Elementary school utilities</b>	\$416,722.59	\$426,800.32	\$437,121.77	\$447,692.82	\$458,519.52	\$469,608.04	\$480,964.73
<b>Other elementary school costs</b>	\$317,295.00	\$324,968.25	\$332,827.06	\$340,875.92	\$349,119.43	\$357,562.30	\$366,209.34
<b>PreK staff</b>	\$434,030.74	\$444,527.04	\$455,277.18	\$466,287.30	\$477,563.67	\$489,112.74	\$500,941.11

<b>Other school staff</b>	\$313,456.00	\$321,036.41	\$328,800.13	\$336,751.61	\$344,895.38	\$353,236.10	\$361,778.52
<b>Transportation (in-district)</b>	\$762,282.00	\$780,716.51	\$799,596.82	\$818,933.73	\$838,738.26	\$859,021.74	\$879,795.73
<b>Systemwide expenditures</b>	\$2,438,207.00	\$2,497,170.94	\$2,557,560.81	\$2,619,411.12	\$2,682,757.17	\$2,747,635.14	\$2,814,082.08
<b>Athletics</b>	\$154,816.00	\$158,559.96	\$162,394.47	\$166,321.71	\$170,343.92	\$174,463.40	\$178,682.50
<b>Non-Special education tuition &amp; transportation</b>	\$726,550.00	\$744,120.39	\$762,115.69	\$780,546.18	\$799,422.37	\$818,755.06	\$838,555.27
<b>Special education in district</b>	\$1,229,085.00	\$1,258,808.35	\$1,289,250.52	\$1,320,428.87	\$1,352,361.22	\$1,385,065.80	\$1,418,561.29
<b>Special education out of district</b>	\$5,308,818.00	\$5,437,202.83	\$5,568,692.44	\$5,703,361.90	\$5,841,288.12	\$5,982,549.84	\$6,127,227.75
<b>Other expenditures</b>	\$2,627,793.74	\$2,691,342.51	\$2,756,428.10	\$2,823,087.68	\$2,891,359.31	\$2,961,281.97	\$3,032,895.59
<b>Total</b>	<b>\$35,125,591.00</b>	<b>\$36,010,699.44</b>	<b>\$36,403,315.08</b>	<b>\$37,135,785.19</b>	<b>\$37,694,354.39</b>	<b>\$38,338,859.82</b>	<b>\$39,006,815.97</b>

**Derby Local Expenditure Projections (2018-19 through 2024-25):**

	<b>2018-19</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>	<b>2024-25</b>
<b>Central office &amp; district wide staff</b>	\$1,342,572.05	\$1,366,805.49	\$1,391,476.35	\$1,416,592.52	\$1,442,162.04	\$1,468,193.08	\$1,494,693.99
<b>High school administration</b>	\$267,673.55	\$272,505.06	\$277,423.78	\$282,431.28	\$287,529.17	\$292,719.08	\$298,002.66
<b>High school instructional staff</b>	\$2,590,069.24	\$2,636,820.03	\$2,630,687.89	\$2,636,820.03	\$2,722,669.98	\$2,710,405.70	\$2,465,120.12
<b>Other high school staff</b>	\$188,601.47	\$192,005.73	\$195,471.44	\$198,999.70	\$202,591.64	\$206,248.43	\$209,971.21
<b>High school utilities</b>	\$191,000.00	\$194,447.55	\$197,957.33	\$201,530.47	\$205,168.09	\$208,871.38	\$212,641.51
<b>Other high school costs</b>	\$164,852.76	\$167,828.35	\$170,857.66	\$173,941.64	\$177,081.29	\$180,277.61	\$183,531.62
<b>Middle school administration</b>	\$213,855.00	\$217,715.09	\$221,644.85	\$225,645.54	\$229,718.44	\$233,864.87	\$238,086.13
<b>Middle school instructional staff</b>	\$1,942,452.00	\$2,063,205.53	\$1,891,821.04	\$1,720,436.56	\$1,562,235.50	\$1,476,543.25	\$1,397,442.72
<b>Other middle school staff</b>	\$82,913.00	\$84,409.58	\$85,933.17	\$87,484.27	\$89,063.36	\$90,670.96	\$92,307.57
<b>Middle school utilities</b>	\$198,000.00	\$201,573.90	\$205,212.31	\$208,916.40	\$212,687.34	\$216,526.35	\$220,434.66
<b>Other middle school costs</b>	\$148,317.55	\$150,994.68	\$153,720.14	\$156,494.79	\$159,319.52	\$162,195.24	\$165,122.87
<b>Elementary school administration</b>	\$280,204.04	\$285,261.73	\$290,410.71	\$295,652.62	\$300,989.16	\$306,422.02	\$311,952.94
<b>Elementary school instructional staff</b>	\$3,968,917.00	\$3,841,952.41	\$3,684,439.21	\$3,677,590.81	\$3,485,835.61	\$3,568,016.41	\$3,568,016.41
<b>Other elementary school staff</b>	\$64,017.82	\$65,173.34	\$66,349.72	\$67,547.34	\$68,766.57	\$70,007.80	\$71,271.45
<b>Elementary school utilities</b>	\$138,000.00	\$140,490.90	\$143,026.76	\$145,608.40	\$148,236.63	\$150,912.31	\$153,636.28
<b>Other elementary school costs</b>	\$276,849.50	\$281,846.64	\$286,933.97	\$292,113.14	\$297,385.78	\$302,753.60	\$308,218.31
<b>PreK staff</b>	\$98,217.00	\$99,989.82	\$101,794.64	\$103,632.03	\$105,502.59	\$107,406.91	\$109,345.61

<b>Other school staff</b>	-	-	-	-	-	-	-
<b>Transportation (in-district)</b>	\$797,526.00	\$811,921.36	\$826,576.55	\$841,496.27	\$856,685.29	\$872,148.47	\$887,890.76
<b>Systemwide expenditures</b>	\$580,850.00	\$591,334.35	\$602,007.94	\$612,874.20	\$623,936.58	\$635,198.65	\$646,663.99
<b>Athletics</b>	-	-	-	-	-	-	-
<b>Non-Special education tuition &amp; transportation</b>	\$186,000.00	\$189,357.30	\$192,775.20	\$196,254.80	\$199,797.20	\$203,403.54	\$207,074.98
<b>Special education in district</b>	\$183,082.00	\$186,386.63	\$189,750.91	\$193,175.92	\$196,662.75	\$200,212.51	\$203,826.35
<b>Special education out of district</b>	\$2,803,199.00	\$2,853,796.78	\$2,905,307.85	\$2,957,748.70	\$3,011,136.11	\$3,065,487.16	\$3,120,819.25
<b>Other expenditures</b>	\$3,127,909.02	\$3,184,367.82	\$3,241,845.71	\$3,300,361.07	\$3,359,932.63	\$3,420,579.46	\$3,482,320.97
<b>Total</b>	<b>\$19,835,078.00</b>	<b>\$20,080,190.08</b>	<b>\$19,953,425.15</b>	<b>\$19,993,348.48</b>	<b>\$19,945,093.29</b>	<b>\$20,149,064.80</b>	<b>\$20,048,392.35</b>

**Regional Expenditure Projections (2020-21 through 2024-25):**

	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>	<b>2024-25</b>
<b>Central Office &amp; District Wide Staff</b>	\$2,908,147.05	\$2,233,172.87	\$2,282,197.28	\$2,332,297.92	\$2,383,498.41
High school administration	\$993,896.34	\$744,582.51	\$760,928.18	\$777,632.69	\$794,703.91
High school instructional staff	\$5,342,152.59	\$5,385,128.51	\$5,385,128.51	\$5,385,128.51	\$5,248,796.14
High school other instructional staff (Cost)	\$1,273,739.11	\$1,331,285.383	\$1,337,202.207	\$1,331,285.383	\$1,301,701.264
Other high school staff (Cost)	\$1,585,478.26	\$1,620,283.96	\$1,655,853.74	\$1,692,204.38	\$1,729,353.01
High school utilities	\$628,102.44	\$509,559.13	\$520,745.38	\$532,177.20	\$543,859.98
Other high school costs	\$530,105.70	\$489,895.69	\$500,650.28	\$511,640.96	\$522,872.91
Middle school administration	\$474,735.86	\$368,876.02	\$376,973.88	\$385,249.52	\$393,706.83
Middle school instructional staff	\$3,394,239.17	\$4,021,804.84	\$3,885,472.47	\$3,885,472.47	\$3,817,306.29
Middle school other instructional staff	\$1,590,744.74	\$1,877,338.21	\$1,822,922.61	\$1,816,120.66	\$1,795,714.81
Other middle school staff	\$705,888.71	\$721,384.95	\$737,221.37	\$753,405.45	\$769,944.82
Middle school utilities	\$554,204.00	\$307,299.91	\$314,046.00	\$320,940.19	\$327,985.73
Other middle school costs	\$280,634.88	\$259,273.43	\$264,965.21	\$270,781.94	\$276,726.37
Elementary school administration	\$694,844.41	\$578,756.83	\$591,462.17	\$604,446.42	\$617,715.72
Elementary school instructional staff	\$7,411,515.93	\$6,475,787.45	\$6,407,621.27	\$6,339,455.08	\$6,339,455.08
Elementary school other instructional staff (Cost)	\$3,234,063.66	\$2,970,088.09	\$3,035,289.86	\$3,101,923.00	\$3,170,018.91
Other elementary school staff (Cost)	\$814,162.82	\$832,035.98	\$850,301.51	\$868,968.01	\$888,044.30
Elementary school utilities	\$580,148.53	\$272,911.00	\$278,902.16	\$285,024.85	\$291,281.94
Other elementary school costs	\$619,761.03	\$580,005.82	\$592,738.58	\$605,750.85	\$619,048.78
PreK staff	\$557,071.82	\$569,301.11	\$581,798.87	\$594,570.98	\$607,623.49
Other school staff	\$328,800.13	\$336,018.22	\$343,394.76	\$350,933.24	\$358,637.21
Transportation (In-district)	\$1,626,173.37	\$1,661,872.44	\$1,698,355.21	\$1,735,638.87	\$1,773,741.02
Systemwide costs	\$3,159,568.76	\$3,088,173.03	\$3,155,967.09	\$3,225,249.43	\$3,296,052.71
Athletics	\$162,394.47	\$165,959.49	\$169,602.76	\$173,326.02	\$177,131.01
Non-Special education tuition & transportation	\$954,890.89	\$975,853.43	\$997,276.15	\$1,019,169.16	\$1,041,542.79
Special Education in district costs	\$1,479,001.43	\$1,319,086.33	\$1,348,043.98	\$1,377,637.33	\$1,407,880.34
Special Education out of district costs	\$8,474,000.29	\$8,660,028.39	\$8,850,140.32	\$9,044,425.74	\$9,242,976.28



<b>Other expenditures</b>	\$5,998,273.81	\$6,129,952.76	\$6,264,522.43	\$6,402,046.28	\$6,542,589.17
<b>Total</b>	<b>\$56,356,767.33</b>	<b>\$54,485,742.86</b>	<b>\$55,009,751.34</b>	<b>\$55,722,929.65</b>	<b>\$56,279,936.31</b>

## Appendix F: Required Components of Report

Once the TRSSC has conducted a vote on the advisability of regionalization, the committee must submit a report to the state with its decision. Section 10-43 of the Connecticut General Statutes require that report address the following nine factors:

- (1) the findings of the committee with respect to the advisability of establishing a regional school district*
- (2) the towns to be included*
- (3) the grade levels for which educational programs are to be provided*
- (4) detailed educational and budget plans for at least a five-year period including projections of enrollments, staff needs and deployment and a description of all programs and supportive services planned for the proposed regional school district*
- (5) the facilities recommended*
- (6) estimates of the cost of land and facilities*
- (7) a recommendation concerning the capital contribution of each participating town based on appraisals or a negotiated valuation of existing land and facilities owned and used by each town for public elementary and secondary education which the committee recommends be acquired for use by the proposed regional school district, together with a plan for the transfer of such land and facilities*
- (8) a recommendation concerning the size of the board of education to serve the proposed regional school district and the representation of each town thereon*
- (9) such other matters as the committee deems pertinent*

Items 1 through 3 are addressed throughout the report. Item 4 is addressed in the “Academics and Educational Plan” and “Finance” sections of the report. Items 5 and 6 are addressed in the “Facilities” section of the report. Item 7 is addressed in the “Finance” section of the report. Item 8 is addressed in the “Governance” section of the report.

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